

**Resilience in Environmental Educators**

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### Abstract

Contemporary environmental issues (such as global warming) can present psychological stress, the effects of which are under-examined. The ability to “bounce back” from stress associated with increasing environmental adversity can be understood as resilience, and can be found in some environmental educators. The following paper examines how veteran environmental educators respond to psychological stress to increasing environmental adversity and describes the experience of resilience. Through in-depth interviews, this hermeneutical study sheds light on the environmental factors and internal competencies that contribute to resilience in seven environmental educators. Additionally, the interaction (known as the person/environment transactional process) between these factors and competencies is explored, providing insight into how the participants construct resilience. Kumpfer’s (1999) Resilience Framework provided the organizational framework for the results of this study. Findings suggest ways in which resilience in environmental educators can be supported and offers directions for future research.

*Keywords:* resilience; transactional process; resilience framework; hermeneutics

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## **CHAPTER ONE: INTRODUCTION**

This research project began as many research projects likely begin, through the discussion of an idea. This chapter recounts how this conversation translated to a research project and introduces the reader to environmental education and resilience. The reader is then introduced to the purpose of this project and why hermeneutic phenomenology was used to explore the research question. A brief summary of the upcoming chapters is provided as well as the definitions of terms.

### **Beginnings**

This research project was inspired by my first year as a high school teacher in an integrated semester program. The program was designed to promote care and concern for the natural environment and my role was to inspire students to make positive environmental choices in their own lives. I suspected there may be risk associated in educating our students about environmental issues, and these thoughts were confirmed when I heard a student describe making positive environmental choices as “pointless.”

This statement raised many pedagogical questions. However, my thoughts became focused on understanding how this student, and perhaps others, had come to believe that working for positive environmental change was “pointless.” In an attempt to prevent environmental apathy in these otherwise energetic students, I began to look to those who clearly “saw the point.”

I found an eclectic, diverse, group of individuals, all working for positive environmental change. Among this group were outdoor educators, environmental



educators, environmental activists, farmers, white-water enthusiasts, and wildlife biologists among others. I began to wonder how these educators still “saw the point” in what they were doing, despite the increasing environmental challenges faced by humanity.

This initial experience fostered my interest in exploring resilience in environmental educators and led to the research question “how do environmental educators experience resilience in the face of increasing environmental adversity?” Andrzejewski, Baltodano, and Symcox (2009) stated that, “humanity faces [environmental] problems of a magnitude unknown to previous generations” (p. 1). This makes me think that “seeing the point” is becoming more and more relevant to resilience in environmental educators. The following provides a brief introduction to environmental education.

### **Environmental Education**

Environmental education is predicated on the knowledge and understanding of the interconnections, complexity and fragility of natural systems (Andrzejewski et al., 2009), and must focus on global issues as well as local issues (Greenwood, Manteaw, & Smith, 2009). It is an educational approach that seeks to enhance human/nature relationships through learning and connection with the natural environment, and in this way differs from disciplines such as outdoor education.

In the 1960s, Rachel Carson’s (2002) *Silent Spring* presented a compelling account of environmental crises and the far-reaching affects of human actions. This seminal work was reflective of the emerging environmental movement at the

time. A decade later, professors Robert Roth (Ohio State University) and William Stapp (University of Wisconsin) began to conceive of an alternative approach to education, one in which the environment was central (Gilbertson, Bates, Ewert & McLaughlin, 2006; Bondar et al., 2007). Since its initial inception, environmental education has grown in scope and popularity around the world (UNESCO, 2010) and is uniquely contextual to the place in which it is taught (Treaty, 1992).

However, definitions of environmental education remain highly contested and no single agreed upon concept of environmental education exists (Russell, Bell & Fawcett, 2000).

### **Connection to Nature**

Humans have always been connected to nature. In cultures around the world, people have celebrated their relationship with the earth through stories, song and dance (Suzuki & McConnell, 2002). Indigenous cultures continue to honour these relationships through ceremonial traditions, prayers and rituals (Suzuki & McConnell, 2002). Environmental education seeks to nurture similar connections to nature and does so through many different avenues.

Despite this historical connection, we have in recent history become increasingly disconnected from the earth. Through technology, economics, global telecommunications and the fast paced life of big city living, many of us have severed our historical, biological and cultural connections to the earth (Suzuki & McConnell, 2002). Rather than understanding the signs within our own communities, many of us wait for scientists to determine the levels of pollution in lakes and streams, impacts of habitat destruction, and affects of global warming

(Henley, 1989). We have disregarded the natural carrying capacity of the earth and many of us no longer lead lives that nurture a connection with the natural environment (Suzuki & McConnell, 2002).

The results of this growing disconnection go further in increasing environmental challenges and crises. In addition to the increasing strain being placed upon the planet, negative psychological and physical health effects are being experienced by humans (Louv, 2005). However, programs such as wilderness therapy (Beringer, 2004) and eco-therapy (O'Connor, 1995) have capitalized on the healing potential of natural spaces. Such programs recognize the unique therapeutic properties of spending time in nature and use this to promote physical, psychological and emotional healing in participants (Beringer, 2004; O'Connor, 1995). Environmental education has sought to teach people not only about the natural world, but also about how people can become stewards of the natural environment (Gilbertson, Bates, Ewert & McLaughlin, 2006). Many believe that human life depends on re-establishing relationships with the natural environment (Orr, 2004).

In a 2007 report, the Intergovernmental Panel on Climate Change (IPCC) stated that climate change is unequivocally linked to human behaviour. Furthermore, continued climate change has catastrophic implications for the health and well-being of all living organisms and living-systems (UNESCO, 2010). The issue of climate change has resulted in a large-scale, global undertaking to educate world citizens about environmental issues (UNESCO, 2010). However, despite the good intentions of such initiatives, it has been found

that learning about environmental issues can lead to feelings of despair and paralysis in confronting these challenges (Hicks & Holden, 1995).

Indeed, Sobel (2006) stated that environmental education can in part encourage dissociation from the environment. Similarly, Carver (1998) indicated that distancing oneself from negative information, such as the effects of climate change, has often been used as a protective coping measure in individuals confronted with stress or challenge.

Distancing oneself from negative information pertaining to the environment is particularly distressing given the increasingly vulnerable state of the earth's natural environment. Today, more than ever, the survival of all earth's species, and health of ecosystems demands the attention and action of a knowledgeable and caring citizenry. Humans today are faced with an unprecedented amount of environmental challenges (Macy & Young Brown, 1998; Suzuki & McConnell, 2002).

My research project is concerned with understanding how some environmental educators remain engaged in and committed to changing the worst environmental outcomes. I refer to this as resilience. The following introduces the concept of resilience and how resilience helped to frame the understanding of environmental educators in this study.

### **Resilience**

Resilience can be understood as the ability of an individual to "bounce back" from adversity (Beardslee, 1989; Bernard, 1993; Carver, 1998). The degree to which a person bounces back varies and has been found to result in several

outcomes including thriving and maintenance of a person's original state of being (Carver, 1998; Garmezy, Masten, & Tellegen, 1984; O'Leary & Bhaju, 2006).

Resilience assumes adaptive behaviour in the face of adversity (Carver, 1998). For resilient individuals, the stressor stimulates the resiliency process whereas stressors can lead to maladaptive behaviour in others (Carver, 1998). To date, there have been various approaches used to study resilience and there is no single model for explaining the resilience process. Moreover, some research has focused on factors (often referred to as "protective factors") that contribute to an individual's resilience, yet have ignored the interaction between and among these factors. These protective factors are often identified as internal and external factors, and personality, contextual, and situational variables (Carver, 1998). The *Resilience Framework* developed by Kumpfer (1999), acknowledges the interactions between and among various factors, and uses these processes to help explain the resilience experience.

Resilience studies grew from a desire in the health care profession to shift the focus from the treatment of injury and illness to one of prevention and health promotion (Almedon, 2005; Antonovsky, 1987; Beardslee, 1989) and offer insight into the factors that contribute to a person's ability to thrive despite stressors. Civil-rights workers, survivors of cancer, children of parents with mental illness (Beardslee, 1989), rescue-workers (Alvarez & Hunt, 2005; Hagh-Shenas, Goodarzi, Dehbozorgi & Faraschbandi, 2005), and children exposed to challenging life circumstances (Bernard, 1993), among others have been the focus of resilience research.

Primarily, resilience studies have focused on youth and adolescents (Campbell-Sills, Cohan, & Steing, 2006; Werner & Johnson, 1999). Similarly, the study of educators has traditionally been lacking in the resilience literature (Day & Gu, 2009; Dias Neves, 2005). However, resilience in environmental education has been addressed in the area of resilience of social-ecological systems that explore how communities and environments as a whole bounce back from stressors (Krasny & Tidball, 2009; Krasny, Tidball, & Sriskandarajah, 2009). My study will extend this body of literature through exploring the psychological resilience of environmental educators.

### **Purpose**

The purpose of this study was to gain an understanding of how environmental educators experience resilience in the face of increasing environmental adversity. This research question was guided by the following sub-questions:

How do environmental educators experience stressors or challenges?

What internal and environmental factors contribute to resiliency in environmental educators?

How do environmental educators experience the transactional process of environmental factors and internal factors in resilience?

How do environmental educators experience resiliency when faced with the stressor of environmental challenges?

To answer these questions a hermeneutical research methodology was used.

Hermeneutic phenomenology is a research methodology concerned with understanding the essence of “lived experience” (Willis, 2007). It is a co-creational approach to qualitative research in which the researcher and participant create meaning to understand the depth of an experience. Hermeneutics is used when answering questions concerned with the “how” or “what” of an experience (Creswell, 2007), and was best suited to answer the research question, “How do environmental educators experience resilience in the face of increasing environmental adversity?”

To help organize and interpret the results of this study, I used a framework of resilience. *The Resilience Framework* (Kumpfer, 1999) is an organizational tool and was used to present the findings of my study. The Framework presents terminology and categories useful in comparing results between resilience studies. *The Resilience Framework* (Kumpfer, 1999) is explained in greater detail in Chapter Two.

### **Importance of this Study**

The focus of this study was to gain an understanding of how environmental educators experience resilience in the face of increasing environmental adversity. Environmental educators face many professional stresses in social and political realms related to these environmental challenges. This study is based on the notion that positive, hopeful approaches to dealing with environmental challenges must be fostered if environmental educators are to continue to thrive in the face of adversity. Through gaining an understanding of

how environmental educators maintain resilience in the face of environmental adversity, it may then be possible to foster similar processes in others.

Understanding resilience from an environmental perspective is important for nurturing an environmentally responsible and engaged citizenry. The notion of ecological literacy is increasingly relevant in a day and age when humanity is faced with global environmental crises (Greenwood, Manteaw, & Smith, 2009). The decision to focus on understanding resilience, rather than attrition, provides a possible approach to fostering resilience in others (Glantz & Johnson, 1999). We must reinvent human/nature relationships and nurture an ecologically literate citizenry. It is the intention of this study to begin to examine how environmental educators remain resilient, and subsequently how they are able to continue to educate others in the face of contemporary environmental adversity.

### **Introduction to Chapters**

Chapter Two presents a review of resilience and environmental education literature. The resilience literature includes an examination of resilience research background, current perspectives in resilience work, and an overview of the *The Resilience Framework* used to guide this research study. The examination of environmental education literature includes an introduction to environmental education, background on environmental education, an overview of present day teachers, and presents challenges associated with environmental education.

Chapter Three introduces the theoretical perspective of this study, research methodology, including data analysis, and concludes with an examination of the



ethical considerations associated with this research. I then offer a summary of the participants who took part in the study.

Chapter Four presents the findings. This chapter expands upon the research participants through narrative descriptions, and examines how participants experienced stress related to increasing environmental adversity. Finally, it presents the emergent themes related to environmental factors, internal competencies and the person/environment transactional process. The data is organized using Kumpfer's (1999) *Resilience Framework*.

Chapter Five uses the research sub-questions to discuss the findings of this research project. Implications of the research, considerations for future work, and limitations of the study are presented.

### **Definition of Terms**

For the purpose of this study, the following definitions are used:

Acute stressors: A single event or experience with potential to profoundly affect the functioning of an individual (Carver, 1998; Garmezy, 1991).

Cumulative stressors: The accumulation of non-acute, multiple, or repeated exposure to events which compound to create stress (Carver, 1998; Garmezy, 1991).

Environmental education: A values-based approach to education based on transforming attitudes and beliefs towards the natural environment emphasizing respectful and knowledgeable human/nature relationships; environmental education is education for action (Russell, Bell, & Fawcett, 2000; Treaty, 1992).

Environmental educator: One who teaches environmental education.

Protective factor: A characteristic of one's personality, culture or environment that seeks to buffer the individual from stress (Egeland, Carlson, & Sroufe, 1993; Werner, 1989).

Resilience: The ability of an individual to return to a previous state of functioning after exposure to acute or cumulative stressors; resilience is understood as a process (Antonovsky, 1987; Egeland et al., 1993; Garmezy & Masten, 1986; Kumpfer, 1999).

Risk factor: A characteristic of one's personality, culture or environment that represents potential for stress in the life of an individual (Egeland et al., 1993; Werner, 1989).

Thriving: The ability of an individual to surpass his/her previous state of functioning after exposure to acute or cumulative stressors (Carver, 1998).

## CHAPTER TWO: REVIEW OF LITERATURE

This chapter begins with an introduction to the literature including an in-depth examination of resilience research including current perspectives on resilience, and an overview of the *Resilience Framework* used to guide this research study. An overview of environmental education literature is then provided including an introduction to environmental education, background on environmental education and an overview of environmental educators. The literature review concludes with challenges currently faced in environmental education.

### An Introduction to Resilience Research

Norman Garmezy, considered the founder of contemporary research on resilience, stated “resilience is manifest competence despite exposure to significant stressors” (Garmezy as cited in Rolf, 1999, p. 7). This definition is reflected in other resilience work (Beardslee, 1989; Carver, 1998; Egeland, et al., 1993; Kumpfer, 1999; O’Leary & Bhaju, 2006; O’Leary & Ickovics, 1995; Richardson, Neiger, Jensen, & Kumpfer 1990; Sumsion, 2004) and can be understood as “the ability to ‘bounce back’ successfully despite exposure to severe risks” (Bernard, 1993, p. 44).

What separates resilience work from previous approaches to health research is the focus on prevention and positive outcomes (Beardslee, 1989; Egeland et al., 1993; Kaplan, 1999; Kumpfer, 1999; O’Leary & Bhaju; Richardson et al., 1990; Sumsion, 2004). Researchers have recognized the

importance of challenges and life stress in the growth and renewal of individuals.

“Resiliency, in summary, implies that the processes of coping with mild to severe disruptions are opportunities for growth, development, and skill building”

(Richardson et al., 1990, p. 34).

### **Resilience Research Background**

Resilience studies emerged initially from the health care field as a desire to shift the focus of health and well-being research from a treatment approach, to one of prevention and promotion (Almedon, 2005; Antonovsky, 1987; Beardslee, 1989; Egeland et al., 1993; O’Leary & Ickovics, 1995; Richardson et al., 1990; Werner, 1993). Traditionally, sociological and behavioural research had been based on treatment of disease and illness (Johnson, 1999). Resilience studies, however have taken an alternative approach in which the prevention and promotion of health is emphasized (Beardslee, 1989; Cicchetti & Garmezy, 1993; Egeland et al., 1993; O’Leary & Ickovics, 1995; Richardson et al., 1990). This shift in emphasis represents a positive and hopeful approach to dealing with negative stressors.

This initial movement away from the traditional disease model of resilience research was highlighted in a study examining youth living in “ghettos.” Garmezy and Neuchterlein used the resilience concept in conducting the first study on resilience in 1972 in which they described “highly competent African American children living in the ghetto, who were well-adjusted despite profound social and environmental challenges (i.e., poverty, prejudice, adverse living conditions)” (O’Leary & Ickovics, 1995, p. 126). The researchers were

surprised to find that although these youth had many factors working against their success, they developed into highly competent and adaptive individuals.

This study was predated by work on schizophrenia, poverty and trauma (Cicchetti & Garmezy 1993; Egeland, et al., 1993; O'Leary & Ickovics, 1995; Richardson, et al., 1990), and a longitudinal study on children born in Kauai (Werner, 1989; Werner, 1993). These studies helped to shape subsequent research on resilience. Concepts of resilience were influenced significantly by Antonovsky's (1987) emphasis on the origin of health (Almedon, 2005; Kaplan, 1999). Within a sociological medical perspective, this approach focused on understanding the movement of people within the ease/dis-ease continuum and how individuals subject to illness move towards one end of the spectrum or the other (Antonovsky, 1987). Antonovsky's work helped lay the groundwork for resilience studies in related disciplines. This original work has influenced studies in areas of psychology, social psychology, sociology, clinical psychiatry, and behavioural science (Almedon, 2005).

Resilience research can be found in fields such as education, youth development, psychology, sociology, nursing and counseling (Almedon, 2005; Antonovsky, 1987; Kaplan, 1999). Despite the growing body of literature on resilience, the term remains broadly defined and somewhat elusive (Johnson, 1999). The breadth of fields in which resilience research is found contributes to the diversity and variability in the terminology and conception of resilience (Kaplan, 1999; Werner & Johnson, 1999). The following discussion highlights

similarities and distinguishes differences in terminology found within the literature.

### **Defining Resilience**

Resilience is a term often associated with people who have experienced difficult circumstances. It has been used to describe youth who have “beat the odds” and grown into healthy, well-adapted young people despite risk factors in their youth such as living with a parent who suffers from alcohol abuse, living with a parent who suffers from a mental illness, or growing up in poverty.

What, however, is meant by the term resilience? How might it differ from other terms used to express the healthy adaptation of individuals? Scholars examining resilience have long sought the answers to these questions, and have struggled with the consistency of terminology. The difficulty is due, in part, to the diverse fields of study that have used resilience work to explain outcomes (Werner & Johnson, 1999). The following explains the interpretation of resilience within this study.

As stated previously, resilience can be defined as a dynamic process in which an individual displays competence despite exposure to risk (Carver, 1998; Egeland, et al., 1993; Garmezy, 1991; Luthar, Cicchetti & Becker, 2000; Masten, 1994; O’Leary & Ickovics, 1995). In the discussion of resilience many terms have often been used interchangeably to explain this concept. Terms such as hardiness, adaptation, social-buffering, and adjustment (Losel, Bliesener & Koferl, 1989) all speak to an individual’s ability to “bounce back” (Kaplan, 1999; Luthar et al., 2000). Of most notable debate is the difference between resilience and resiliency.

Despite the similarity in these concepts, nuances between the terms resilience and resiliency denote a greater development in the field of resilience studies. The term resilience is used to describe positive adjustment to challenging conditions (Masten, 1994; Luthar et al., 2000), while resiliency suggests a pre-determined, or developed, personality trait (Masten, 1994). The delineation between the two terms is important as the term resilience reflects the more recent acceptance that positive adjustment is a process, not a personality attribute (Masten, 1994; Luthar et al., 2000).

Resilience as process continues to be explored by a multitude of researchers concerned with this topic. For the purpose of my study, resilience describes the process through which an environmental educator is capable of remaining engaged in environmental education despite increasing environmental adversity. The following section explores current perspectives in resilience research including models of resilience, and the *Resilience Framework*.

### **Current Perspectives in Resilience Research**

Initial research studies such as those mentioned above have allowed for the evolution of the resilience field and the development of models that explain resilience. Despite several historically significant resilience studies, resilience research is relatively new theoretically (Richardson et al., 1990). In the last two decades, resilience research has shifted in focus from identifying individual variables that contribute to resilience towards recognizing resilience as a process (Egeland, et al., 1993). As Rutter (1987) describes, resilience is the process of “negotiating risk situations” (p. 316).

Models focused on health competency, rather than health deficits, exist in areas such as psychology, psychiatry, psychopathology, child development (Richardson et al., 1990), and positive psychology (Fredrickson, 2001; Lyubomirsky, 2001). Each of these study areas has influenced resilience research to date. At this time, however no single approach to resilience is agreed upon (Beardslee, 1989; Carver, 1998; Kaplan, 1999; Kumpfer, 1999; O’Leary & Bhaju, 2006; Sumsion, 2004). Moreover, characteristics of resilience have not proven universal due to the specificity of research studies (Skinner, Edge, Altman, & Sherwood, 2003). However, despite differences in the approach, there are commonly accepted components in resilience models.

### **Models of Resilience**

Several models of resilience exist to explain the process of adaptive behaviour despite the presence of stress. These models are often linked to specific studies and therefore reflect the contextually specific characteristics being examined. As Kaplan (1999) stated, models typically overlap greatly in the characteristics featured and differ only in what features are emphasized. In part, this can be attributed to the wide range of perspectives on the subject that reflects investigators from diverse professional fields conducting resilience research (Werner & Johnson, 1999).

Models can be organized as linear or interactional. Linear models reflect the initial belief that single identifiable factors constituted risk or protection from risk. Such models are often referred to as “trait” characteristic models (Richardson et al., 1990). Interactional models accept that it is a range of factors,



and the interaction among these factors, that serve to mediate stress. Interactional models can be likened to Piaget's model of disequilibrium that focused not only on characteristics of developmental stages, but also how an individual moves from one stage to the next (Johnson, 1999).

Today, generally accepted components of resilience include personal factors, environmental factors, and a mediating process between personal and environmental factors. Models that recognize resilience as a dynamic and interactive process, including the components listed above, are important in acquiring more robust research focusing on processes of adaptation (Egeland et al., 1993; Kaplan, 1999; Kumpfer, 1999; Murphy, 1987; Richardson et al., 1990), and represent the second wave of resilience research in which processes are recognized (Campbell-Sills et al., 2006). The components of resilience, including personal factors, environmental factors, and interactional processes, are explored in greater detail in the discussion of the *Resilience Framework*.

The *Resilience Framework* effectively integrates the multiple perspectives offered in resilience literature (Johnson, 1999) and can be used as an organizational tool for the study of environmental educators. The following explains the components of the *Resilience Framework*, and describes why the *Resilience Framework* was best suited to guide this study.

### **Framework for Resilience Research**

The *Resilience Framework* (Figure 1) is a comprehensive model for organizing the multitude of research on resilience (Johnson, 1999; Kaplan, 1999; Kumpfer, 1999), and effectively captures the multi-dimensional, dynamic nature

of resilience (Cicchetti & Garmezy, 1993; Egeland et al., 1993; Johnson, 1999; Richardson et al., 1990). This model is unique within resilience research in that it recognizes both processes and factors related to resilience, and helps to organize the multiple constructs that exist to explain resilience. In this sense, an individual demonstrates resilience in the time, place, and context of their situation and changes within these variables result in changes to the resilience process (Kumpfer, 1999; Richardson et al., 1990; Werner & Johnson, 1999). The *Resilience Framework* helps in discerning factors that are comparable between populations of individuals, and ages of participants being studied.

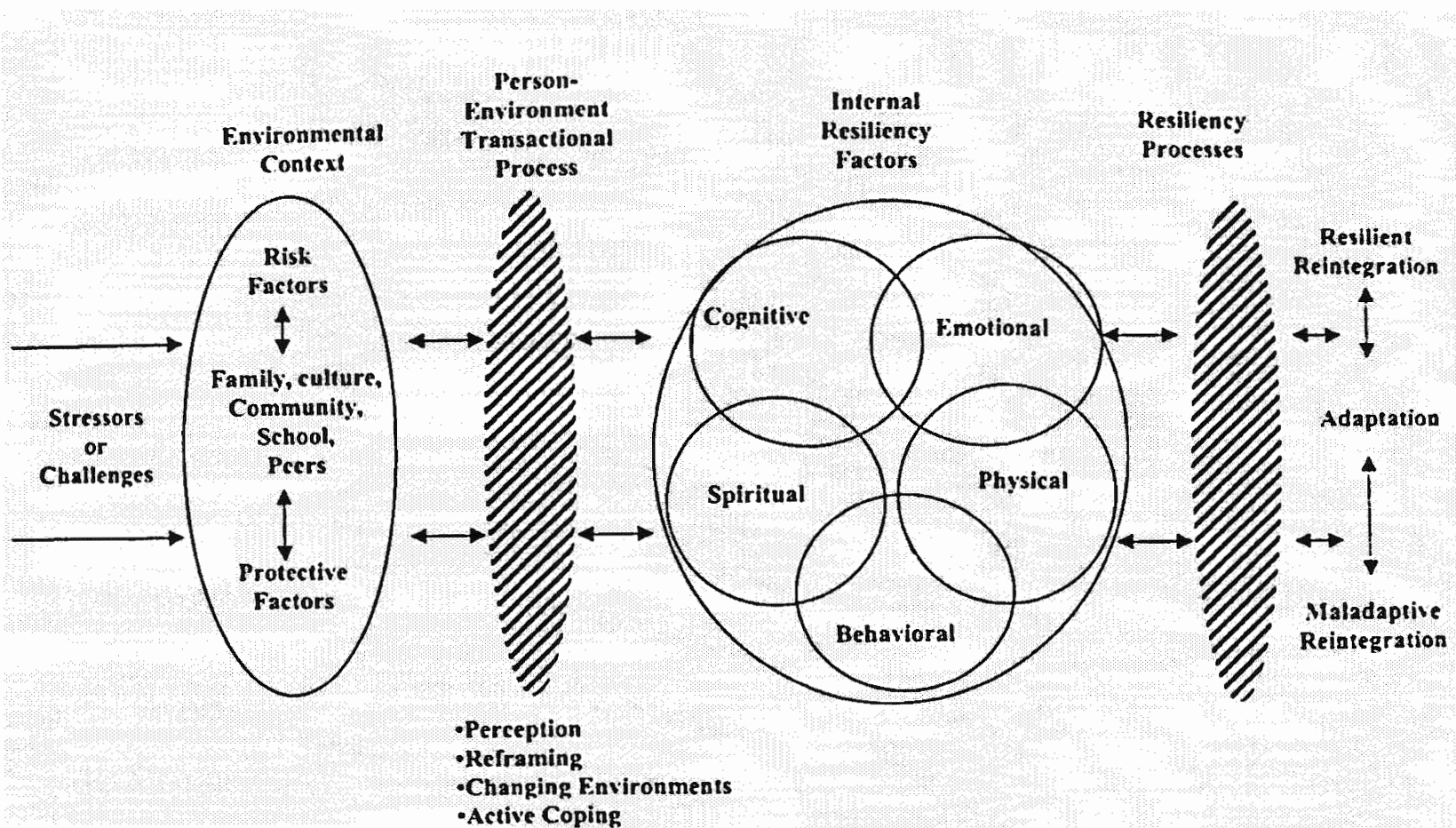


Figure 1  
Resilience Framework (Kumpfer, 1999)

Figure 1. Resilience Framework.

Egelson et al. (1993) stated that their research has lead them to view resilience as “a transactional process within an organizational framework” (p. 517) determined by the interaction of sociological, biological, psychological and genetic factors. I thus decided to use the *Resilience Framework* as an organizational tool for my study of environmental educators. The components of Kumpfer’s framework are not prescriptive, but rather comprise an organizational guideline for presenting emergent factors and themes explaining resilience as experienced by environmental educators.

The following explores the components of the *Resilience Framework* including: 1) stressors or challenges, 2) environmental context, 3) person-environment interactional process, 4) internal resilience factors, 5) resilience processes, and 6) outcomes associated with resilience. These components are explored within the context of resilience literature, and include studies and findings most relevant to the study of resilience in environmental educators.

### **Stressors or Challenges**

Stress or challenge is considered to be the stimulus from which the resiliency process begins (Kumpfer, 1999). Resilience is demonstrated through overcoming stress or challenge (Antonovsky, 1987; Kumpfer, 1999; O’Leary & Bhaju, 2006; Rolf, 1999; Sumsion, 2004). The defining aspect of resilience is that a stressor must first exist for a person to display resilience (Garmezy, 1991). Situations such as poverty (Egeland et al., 1993; Cicchetti & Garmezy, 1993; Werner, 1989,1993), war (Apfel & Simon, 1996; Hill, 2005), natural disaster (Alvarez & Hunt, 2005; Hagh-Shenas et al., 2005), mental illness, alcoholism

(Beardslee, 1989; Bernard, 1993), and rescue-work (Alvarez & Hunt, 2005) are examples of stressors (Antonovsky, 1987; Werner & Johnson, 1999). Large issues such as those undertaken in the civil rights movement can also be considered stressors (Beardslee, 1989), as can global issues such as poverty and climate change (Postel, 1992).

Stressors or challenges are necessary in the healthy development of all individuals (Johnson, 1999). Confronting stressors and challenges contributes to one growing up successfully (Johnson, 1999). Stressors and challenges are encountered throughout life and, in fact, are sought out by many people. For example, individuals train for a marathon, try out for a sports team, or take on more job responsibility in their search for more challenge. Many of us strive to find balance between success and failures, and it is this balance that promotes the healthy development of both children and adults (Johnson, 1999). As Richardson et al. (1990) stated, “falling apart” (p. 34) is necessary for growth and renewal.

Contrary to stressors such as running marathons, trying out for a sports team, or accepting a new job, negative stressors are those we do not overtly choose (Kumpfer, 1999). These can be factors such as poverty, the mental health or addiction challenges of a parent, or discrimination based on gender or skin colour. The experience of rage has been found to be a stressor in civil-rights workers (Beardslee, 1983). A more contemporary issue is the stress that exists with increasing environmental adversity (Macy & Young Brown, 1998).

Environmental stress or challenge can refer to global climate change, species extinction, food insecurity, desertification, habitat destruction and a

myriad of other global and local issues. As described previously, such issues can result in psychological stress and can affect all humans. However, similar to other social movements, in some cases individuals must choose to engage in the issues in order to experience stress or challenge. In other cases, such as farmers affected by desertification, environmental issues are imposed on individuals. This makes the study of resilience in environmental educators all the more unique.

**Cumulative and acute stressors.** Stressors can be cumulative or acute. Stressors, in which generally mundane situations with mild amounts of stress that compound to create a stressor, are termed cumulative (Garmezy, 1991; Kumpfer, 1999; Rolf, 1991). In contrast, acute stressors are intense in time and scope, such as bombings or death of a family member (Garmezy, 1991; Kumpfer, 1999; Rolf, 1991). The terms proximal and distal are also used to describe stressors, with proximal stressors being close at hand, while distal are further removed from the individual (Masten, Best, & Garmezy, 1990; McMahon, 2007).

In the case of environmental educators, stressors can be cumulative and acute, proximal and distal. The death of a natural space can invoke feelings similar to those of losing someone close (Lertzman, 2008; O'Connor, 1995; Windle, 1995), and general knowledge of environmental crises can lead to apathy and disengagement (Hicks & Holden, 1995; Lertzman 2008). The presence of environmental crises can create stress for those who are attuned to the significance of these losses.

## **Environmental Context**

The second component of the *Resilience Framework* is the “environmental context.” The environmental context is comprised of a multitude of environmental factors that either inhibit or promote resilience. Environmental factors are sometimes described as “life stress.” These are factors or events over which a person has no control. However, these can often be mediated through one’s reaction (or proactive behaviour) to the stimulus (Egeland et al., 1993; Cicchetti & Garnezy, 1993; Kumpfer, 1999; Richardson et al., 1990; Werner, 1989, 1993).

It has been found that organizational or school environments are major factors in teachers’ decisions to stay in the teaching profession (Certo, & Engelbright Fox, 2002; Day & Gu, 2009). Factors associated with the teaching profession also present potential risk and protective factors. The degree to which environmental educators experience collegiality, familial support, flexible curriculum, planning time, acceptable student/teacher ratios, resources, employer support, team-teaching, positive working relationships and other environmental context factors will affect how one experiences resiliency (Cicchetti & Garnezy, 1993; Egeland et al., 1993; May, 2000; Palmer, 1998; Richardson et al., 1990; Sumsion, 2004; Werner, 1989, 1993). When these factors are negative, or poorly interpreted by environmental educators, they can be considered risk factors.

Moreover, some approaches to environmental education can share similar challenges to outdoor and adventure education (Goodman, 2007) in that extended wilderness trips, and time away from family and friends may constitute an aspect of the work environment. Such components of environmental education may

presents challenges and stressors unique to this line of work such as cohabitating with students and co-workers, long work hours, and extended periods away from friends and family (Marchand, Russell, & Cross, 2009).

The presence of environmental risk factors does not necessarily imply an individual is “at-risk” (Kumpfer, 1999). In fact, many individuals exposed to risk factors are highly adaptive and resilient, proving that risk factors are not predictive of negative outcomes (Almedon, 2005; Beardslee, 1989; Bernard, 1993). Outcomes are a result of complex and dynamic interactions between the person, environment and stressor. The interaction between the individual and the environment is described as the “person-environment transactional process” (Egeland et al., 1993; Kumpfer, 1999; Richardson et al., 1990; Werner, 1989, 1993) and is explored in greater detail below.

### **Person-Environment Transactional Processes**

The Person-Environment Transactional Processes is the third stage of the *Resilience Framework*. This stage recognizes the interaction that occurs between an individual and his or her environment and the knowledge that one cannot be understood without the other (Egeland et al., 1993; Garmezy, 1991; Kaplan, 1999; Kumpfer, 1999; Luthar et al., 2000; Richardson et al., 1990; Rutter, 1987; Werner, 1993). Resilient individuals are those who can transform high-risk environments into more protective environments (Beardslee, 1989; Garmezy, 1991; Kumpfer, 1999; May, 2000; Taylor & Swetnam, 2000). For example, May (2000) stated that environmental educators are positioned to exert considerable influence over their circumstances (active environmental modifications), either



through inheriting desirable conditions (selective perception), or through creating those conditions from unlikely situations (active coping, cognitive reframing).

This study will emphasize those characteristics that are most relevant for my research participants (Kaplan, 1999; Taylor & Swetnam, 2000). Kumpfer identified the following as components of the person-environment transactional process: 1) selective perception (Beardslee, 1989); 2) cognitive reframing (Reasoner, 1986; Taylor & Swetnam, 2000); 3) planning and dreaming (Beardslee); 4) identification and attachment with prosocial people (Beardslee, 1989; Garmezy, 1991; Taylor & Swetnam, 2000); 5) active environmental modifications (May, 2000); and, 6) active coping (Beardslee, 1989).

### **Internal Resiliency Factors**

The fourth component of the *Resilience Framework* is termed “internal resilience factors.” Personal factors, or internal factors, are those factors controlled by the individual that allows one to negotiate a “homeostatic” environment (Kaplan, 1999; Richardson et al., 1990). For instance, one uses internal factors to deal with the emotional response of anger. Internal coping factors determine if the individual deals with anger in a pro-social way, or through maladaptive means. Each individual has different internal factors related to resilience.

The *Resilience Framework* is based partially on the traditional wisdom of Native Americans that consider four major developmental tasks including, emotional, cognitive, spiritual and physical processes (Kumpfer, 1999). The fifth dimension of social/behavioural competency recognizes the importance of social

competencies in resiliency and is reflected elsewhere in the literature (Beardslee, 1989; Bernard, 1993; Carver, 1998; May, 2000; Sumsion, 2004; Volk, 2003). The thoroughness of these competencies and the roots in traditional wisdom make this framework particularly relevant to the study of environmental education as traditional wisdom can form the basis for some environmental educators' teaching pedagogy (Bondar et al., 2007; Russell, Bell, & Fawcett, 2000). For the purposes of this study, internal competency factors are categorized as emotional, cognitive, spiritual, physical and social/behavioural (Kumpfer, 1999). These competencies are explored below.

**Emotional competencies.** Emotional competencies are reflected in characteristics such as happiness, where happiness is thought of as contentment, positive well-being, and feeling that one's life is meaningful and worthwhile (Fredrickson, 2001; Fredrickson & Losada, 2005; Lyubomirsky, 2001; Lyubomirsky, Sheldon, & Schkade, 2005b; Richardson et al., 1990); recognition of feelings (Beardslee, 1989; Kumpfer, 1999; Richardson et al., 1990); emotional management skills (Kumpfer, 1999); ability to restore self-esteem (Beardslee, 1989; Kumpfer, 1999; Richardson et al., 1990); humour (McMahon, 2007); and hopefulness (Beardslee, 1989; Kumpfer, 1989; Richardson et al., 1990; Sumsion, 2004; Volk, 2003). Although some of these factors can be linked to biological and genetic factors (Egeland et al., 1993; Kumpfer, 1999), this holistic perspective of emotions recognizes the importance of overall health including exercise, diet and stress reduction in maintaining emotional stability (Kumpfer, 1999).

**Cognitive competencies.** Cognitive competencies are those characteristics that help an individual achieve their dreams and goals (Kumpfer, 1999). A plethora of cognitive competencies exist. However, the availability of these competencies will depend on the individual. Despite the youth-oriented nature of the *Resilience Framework* created by Kumpfer (1999), the following competencies are also important in the resilience of adults: intellectual and job skills (Kumpfer, 1999; Masten et al., 1990), moral reasoning, insight and intrapersonal reflective skills, self-esteem and ability to restore self-esteem, planning ability, and creativity (Kumpfer, 1999).

***Intellectual and job skills.*** Sumsion (2004) found that ongoing professional learning was a contributing factor to the longevity, persistence, and overall resilience of early childhood educators in their field. Similarly, competencies in successful environmental educators include a knowledge base, skills base and an ability to integrate skills and knowledge in an effective way (May, 2000; Ontario Ministry of Education, 2009a, 2009b; Taylor & Swetnam, 2000). This is consistent with Kumpfer's (1999) *intellectual competence* and *academic and job skills* competencies (Richardson et al., 1990; Werner, 1989, 1993). Ongoing development of professional skills may contribute to the resiliency of environmental educators.

***Moral reasoning.*** *Moral reasoning* establishes foundational principles that can help nurture resilience (Kumpfer, 1999; Sumsion, 2004). According to Kumpfer (1999), "cognitive aspects of morality include judging right and wrong, developing internal images or standards for the way things should be or what is

normative, valuing compassion, fairness and decency, and serving others” (p. 202). A consistent factor that promotes resiliency is a certainty in believing in what one does. Firm belief in one’s pursuits contributes to overcoming hardships and contributes to resiliency (May, 2000; Kumpfer, 1999; Richardson et al., 1990; Sumsion, 2004; Taylor & Swetnam, 2007).

*Insight and interpersonal reflective skills.* *Insight and interpersonal reflective skills* have been determined to significantly contribute to an individual’s resilience (Beardslee, 1989; Kumpfer, 1999; Sumsion, 2004; Taylor & Swetnam, 2000). The ability to adequately judge one’s strengths and limitations contributes to longevity and persistence within a field (Beardslee, 1989; Sumsion, 2004; Werner, 1993) and is reflected throughout the *Resilience Framework*.

In his examination of resilience in civil rights workers, Beardslee (1989) determined five dimensions of self-understanding important to resilience. The dimensions are adequate cognitive appraisal, realistic appraisal of the capacity for and consequences of action, action, developmental perspectives, and understanding as a protective factor. Civil rights workers and environmental educators share several common characteristics including a commitment to changing the world in which they live. Given the similarity between environmental educators and other groups committed to changing the world in which they live, it is likely factors contributing to resilience will be common among such groups (Beardslee, 1989; Taylor & Swetnam, 2000).

The cognitive competency of *insight and interpersonal reflective skills* may allow environmental educators to appropriately gauge the challenges before

them, and to accurately assess their own ability to deal with these challenges (Beardslee, 1989; Kumpfer, 1999; Sumsion, 2004). Similarly, this ability allows environmental educators to assess their working situations pragmatically and idealistically (Beardslee, 1989), to allow for example, to pace themselves professionally and select workplaces reflective of their own values and beliefs (Sumsion, 2004). For civil rights workers, *insight and interpersonal reflective skills* was a major determining factor in the resilience experienced by the individual (Beardslee, 1983, 1989). I predicted prior to beginning my study that this factor will be similarly important in the resilience of environmental educators.

***Self-esteem and ability to restore self-esteem.*** The ability to maintain *self-esteem and ability to restore self-esteem* allows environmental educators to tackle challenges with confidence in oneself and one's skills. For resilient individuals, wavering confidence is coupled with the knowledge that esteem can be restored. Beardslee (1989) describes the ability of resilient individuals to "find some certainty and predictability in their world and in their sense of themselves" (p. 272), and are able to "build on their past experiences to anticipate future experiences" (p. 272). This understanding works as a protective factor that allows individuals to anticipate stresses as well as their response to these stressors (Beardslee, 1989; Richardson et al., 1990; Werner, 1993).

***Planning ability.*** *Planning ability* is reflected in the literature as a skill common to resilient individuals (Beardslee, 1989; Richardson et al., 1990; Rutter, 1987). *Planning ability* allows one to assess a situation on the basis of the five internal resiliency factors. For example, a resilient individual will be able to use

*planning ability* to answer the following questions: What cognitive skills are required for this situation? What is my emotional capacity at this time? How will my strengths and weaknesses manifest in facing this challenge? and, What are the likely outcomes and consequences of my decision? This competency relates to the individuals' ability to assess what actions they are capable of, and what effects these actions will have (Beardslee, 1989).

***Creativity.*** The final cognitive competency is that of *creativity*. It has been found that successful environmental educators employ creative skills in troubleshooting challenges and making due with limited resources (May, 2000). Creatively using energy can contribute to an individual's self-esteem, and reflects an ability to problem-solve (Beardslee, 1989). This contributes to an individual's resilience.

***Spiritual competencies.*** Spirituality has been found to be highly predictive of positive adaptation (Kumpfer, 1999; O'Leary & Ickovics, 1995; Werner, 1993). Spirituality can be understood as a religious belief system, but most notably includes an understanding of one's life purpose (Kumpfer, 1999). As Eaton (1995) explains, spirituality is "An intrinsic dimension of life. Spirituality refers to a deep, holistic knowledge of life, which evokes reverence and a sense of awe about the universe. Spirituality expresses something of the ineffable mystery of life" (p. 29). The spiritual element of the natural environment is a common theme in outdoor education and recreation literature (Maller, Townsend, Pryor, & St. Leger, 2005) and has also been linked to environmental education (Hitzhusen, 2006; Jickling & Russell, 2006). Fry (2000) suggests

spirituality has a place in environmental education as an emphasis on community and interconnection can sometimes be neglected in traditional science-based approaches to environmental education. Kumpfer (1999) offers the following as components of *spiritual competency*: internal locus of control, belief in uniqueness or in oneself, independence, hopefulness and optimism (Werner, 1993), and determination and perseverance (Werner, 1993).

***Internal locus of control.*** *Internal locus of control* is consistently noted in the literature as a major contributing factor in resiliency (Almedon, 2005; Kumpfer, 1999; Sumsion, 2004; Werner, 1993), and is defined as how one perceives his or her current environment and future destiny (Kumpfer, 1999). Resilient individuals have positive perceptions and envision a hopeful and optimistic future (Beardslee, 1989; Egeland et al., 1993; Lyubomirsky, 2001; Richardson et al., 1990; Werner, 1993). This does not suggest resilient individuals ignore or avoid difficult circumstances, but rather appropriately recognize what they can and cannot control. Letting go of that which is out of their control is a marked characteristic of resilient individuals, and suggests a strong belief in oneself. Given the number of demands on environmental educators it would seem plausible that a high locus of control is important for maintaining longevity and resiliency in their field of work.

***Determination and perseverance.*** *Determination and perseverance* is the ability to pursue a chosen mission or direction despite hardships that are encountered (Egeland et al., 1993; Kumpfer, 1999; Richardson et al., 1990; Werner, 1989). This quality is closely related to the competency of planning, in

that determination and perseverance allows the individual to maintain long-term goals while remaining flexible to changing plans in the short term. Environmental educators are often subject to funding changes, program changes, and governmental influence (such as changes in curriculum, or changes to program funding) (Puk & Behm, 2003). Resilient individuals are able to create new and alternate plans to pursue the chosen direction (Beardslee, 1989; Kumpfer, 1999).

**Physical competencies.** A variety of physical competencies have been identified in resilient youth (Cicchetti & Garmezy, 1993; Werner, 1993). Given the physicality of some environmental education, healthy lifestyle and general health may be important to the work of environmental educators.

**Social/behavioural competencies.** Social and behavioural competencies build upon the cognitive competencies discussed previously. Cognitive competencies consciously acknowledge a circumstance, while social and behavioural competencies demand behavioural action (Kumpfer, 1999; Werner 1993). These include “street smarts,” problem-solving skills, empathy and interpersonal skills, and general social skills.

**Street smarts.** “Street smarts” refers to the ability to function effectively in different environments (Garmezy & Masten, 1986; Kumpfer, 1999; Werner, 1993). For environmental educators navigating various roles, they must appeal to a diversity of people including students of different ages and abilities, employers and colleagues. The ability to function effectively in each of these distinct domains requires adept ability or “street smarts.”



***Problem-solving skills.*** General problem-solving skills are highlighted by the ability to identify and generate appropriate solutions to the problem, assess consequences of decisions, implement solutions, and reflect on the process, all while maintaining interest and motivation for solving the problem (Beardslee, 1989; Kumpfer, 1999). The competency of problem-solving exemplifies the interrelatedness of resiliency competencies: planning, self-reflection, creativity, determination, and perseverance which are incorporated into the competency of problem-solving (Anthony, 1987; Beardslee 1989; Kumpfer, 1999; May, 2000; Werner, 1993). Problem-solving skills have been found to contribute to the success and resilience of individuals (Anthony, 1987; May, 2000; Werner, 1993). The context of environmental education will be explored more fully below. However, it is important to note that problem-solving is often cited as a central component of environmental education (Bondar et al., 2007; Orr, 1992, 2004)

***Empathy and interpersonal skills.*** Empathy and interpersonal social skills have been found to be important factors of resilient individuals. These skills are captured through characteristics such as a willingness to care for others, a sense of responsibility for others, and empathy for others (Kumpfer, 1999; Sumsion, 2004; Richardson et al., 1990; Taylor & Swetnam, 2000; Werner, 1993). If such skills are transferred to relationships with the natural environment it is interesting to note that the ability to empathize may contribute to stressors for environmental educators.

***General social skills.*** In addition to “street smarts,” problem-solving, empathy and interpersonal skills, general social skills such as listening and

communication also contribute to resiliency (Kumpfer, 1999). Additionally, researchers have noted that culture and gender affect competencies within resiliency research. However, these factors have not always been accounted for in previous studies (Garmezy, Masten & Tellegen, 1984; Kumpfer, 1999; Taylor & Swetnam, 2000). There is no denying that gender and culture impact education (Kumpfer, 1999; Sumsion, 2004; Taylor & Swetnam, 2000). It may be found that experience or awareness around gender and cultural issues affect resiliency in environmental educators.

### **Resiliency Processes**

The fifth stage of the *Resilience Framework* is termed “resiliency processes” and describes the interactions between the individual and the environment (Glantz & Sloboda, 1999; Johnson, 1999; Kaplan, 1999; Kumpfer, 1999). Gaining an understanding of these processes is the focus of much resilience research (Johnson, 1999; Kumpfer, 1999; Luthar, Cicchetti, & Becker, 2000). Resilience must be understood in the context of these processes. It is not enough to simply identify protective factors - it is also important to understand how these factors interact with the individual to create resiliency (Egeland et al., 1993; Johnson, 1999; Kumpfer, 1999; Richardson et al., 1990; Rutter, 1987; Werner 1993).

In this study I wanted to gain an understanding of how environmental educators experience environmental factors, internal factors, and how the interplay of these factors contributes to their resilience. For instance, it has been found that social support, vision of an alternative future, and self-understanding

are critical to the longevity of civil-rights workers (Beardslee, 1989). Similarly, it may be that environmental educators have family, friends and colleagues committed to environmental work that create a supportive environment in which to educate. An alternative vision for the future may be the impetus for environmental educators to persist during particularly difficult times. However, this may only be possible given a supportive community and a sense of personal limits, goals, and resources. The factors that influence resilience, and the processes through which environmental educators experience resilience, are the concern of my study.

### **Outcomes of Resiliency Processes**

The final stage of the *Resilience Framework* is “outcomes of resiliency processes.” Resilience is understood as an individual’s return to previous levels of functioning, or in some instances a return to a higher level of functioning (Carver, 1998). Carver (1998) refers to the latter as “thriving.” Non-resilient outcomes are also possible wherein the individual displays negative functioning after experiencing stressors. Carver categorizes maladaptive responses as succumbing, or “survival with impairment” (Egeland et al., 1993; Luthar et al., 2000; Kumpfer, 1999). However, these maladaptive outcomes are not the focus of most resilience studies.

I assume that environmental educators who are successful in their work display many of the characteristics of resilient individuals as outlined by the *Resilience Framework* (Kumpfer, 1999; May, 2000). It is not known, however to what extent environmental educators are resilient, or how they experience the

resilience process. It may be that environmental educators experience different levels of resilience (e.g., resiliency, thriving). This study will help in gaining a clearer understanding of resiliency in environmental educators.

The *Resilience Framework* explored above is a thorough organizational tool for resilience studies that recognizes the role environmental and individual factors play in determining resilience outcomes of an individual. Additionally, and most importantly, the *Resilience Framework* recognizes the relationship between these variables. Despite the thoroughness of the *Resilience Framework*, some drawbacks do exist. In particular, the organization of competencies may not resonate with all readers. For example, some competencies (such as determination and perseverance) may be considered social/behavioural or cognitive competencies yet are presented as spiritual competencies in the *Framework*. Additionally, the *Resilience Framework* may not be culturally representative of individual experience. Despite these weaknesses, the *Framework* as an organizational tool allows for the inclusion of specific themes, and allows for broader interpretation that is specific to the population being studied. Themes that emerged outside of the *Framework* have been included in this study and, in accordance with hermeneutics, themes have been arranged based on my interpretation of where they are best suited (e.g., spiritual competency, emotional competency etc.).

### **Environmental Education**

The field of environmental education has been shaped considerably by international approaches to environmental education such as the Tbilisi

Declaration, the Belgrade Charter, and Agenda 21 (Greenwood, Manteaw, & Smith, 2009). These documents have offered direction and clarity to environmental education, yet have not always reflected the various perspectives in the field. The various perspectives and approaches to environmental education have created challenges in defining environmental education. The following discusses definitions of environmental education, various currents in environmental education, and presents an introduction to environmental education globally, within Canada, and within Ontario.

### **Defining Environmental Education**

Environmental education can be thought of as a values-based approach to education based on transforming attitudes and beliefs towards the natural environment emphasizing respectful and knowledgeable human/nature relationships (Russell et al., 2000; Treaty on Environmental Education, 1992). Despite its rich history, environmental education is a relatively new field (Jickling, 1997) and as such, challenges associated with establishing a new discipline exist. At the forefront of discussion has been a discourse related to defining environmental education. The following provides an introduction to this discussion.

Since its inception in 1969 (Jickling & Spork, 1998), environmental education has had numerous interpretations and meanings. Sauvé (2005) refers to these interpretations and meanings as “currents” and states,

... despite their shared concern for the environment and their recognition of the central role of education in enhancing human-environment

relationships, various authors (researchers, professors, educators, facilitators, associations, organizations, etc.) adopt widely diverse ways of practicing educative activity in [environmental education]. (p. 11)

According to Sauvé (2005), currents describe a way of “envisioning and practicing environmental education” and considers that “a single proposition (an approach, a model, a strategy, a program and activity, etc.) may be associated with two or three different currents, according to the angle from which it is analyzed” (p. 12).

Sauvé (2005) presents currents as a means of summarizing the pedagogical landscape of environmental education, highlighting why there is no singular definition agreed upon by all (Russell et al., 2000). Sauvé (2005) acknowledges that the proposed currents will continue to evolve in response to perceptions of what is important in society at that time. In total, Sauvé (2005) describes 15 currents as a means of summarizing the pedagogical landscape in environmental education. The currents are divided between longer traditions in environmental education, and more recent perspectives. Longer traditions in environmental education include the following currents: 1) naturalistic, 2) conservationist/resourceist, 3) problem-solving, 4) systemic, 5) scientific, 6) humanist/mesological, and 7) value-centred (Sauvé, 2005). Sauvé (2005) included currents 8 to 15 as examples of more recently emerged currents in environmental education. These currents are as follows: 8) holistic, 9) bioregionalist, 10) praxic, 11) social/critical, 12) feminist, 13) ethnographic, 14) eco-education, and 15) sustainable development/sustainability.

As a result of the numerous currents, definitions of environmental education vary. For example, an approach to environmental education grounded in the sustainable development/sustainability current (as reflected in the United Nations 1987 World Commission on Environment and Sustainability document, *Our Common Future*) (Greenwood et al., 2009; Sauvé, 2005), varies considerably from a value-centred current that recognizes human relationships with nature are founded on moral and ethical beliefs (Sauvé, 2005).

Of the many interpretations of environmental education, two well-known definitions exist (Jickling, 1997). Based on the work of Harvey (1976), and popularized by Hungerford, Peyton and Wilke (1980), the first definition focuses on the goal, “to develop informed and skilled citizens who are willing and able to take action to resolve environmental issues” (Lane, Wilke, Champeau, & Sivek, 1995, p. 36). This approach emerged in the 1970s in response to growing concern over environmental problems and emphasizes a commitment to education in order to solve environmental problems. Such an approach is reflected in the problem-solving current identified by Sauvé (2005).

The second definition, rooted in the work of Lucas (1979), is that environmental education is “education for the environment.” Jickling (1997) critiqued both definitions and stated that both have a prescriptive nature suggesting a tendency towards bias and indoctrination (as in “education *for* the environment”). Jickling further argued that the above definitions do little to recognize the educational philosophy of environmental educators and neglects to identify broader contextual understandings of education.

Some suggest environmental education should be founded on principles of science. Sauvé (2005) describes this as the scientific current in which environmental issues are approached through scientific rigour using observation-based hypothesis and experimentation (Sauvé, 2005). However, Gruenewald (2004) rejected this notion stating that a scientific stance rejects the political nature of environmental education.

Jickling (1997) suggested environmental education can be thought of as a means to develop skills critical to life-long learning. He highlighted characteristics that can be achieved through environmental education such as problem-solving and critical thinking that can be utilized to discuss characteristics such as alternative world views, to critique contemporary wisdom, and present ways to work and live cooperatively (Jickling, 1997). This approach to environmental education is captured in feminist, socially critical and value-centred currents described by Sauvé (2005).

Some suggest that if environmental education reflects the breadth of definitions that exist, it will be interdisciplinary, participatory, critical, community-based, values-based, and inquiry-based (Hart, Jickling & Kool, 1999). Jickling (1997) noted that although these characteristics suggest a “loaded” notion of environmental education, they are more congruent with broader conceptions of education.

In lieu of a concrete definition of environmental education, Russell et al. (2000) discussed the definition of environmental education produced at the Rio World Conference as “the most comprehensive, democratic and inclusive



definition to date” (p. 198). The process through which this definition was created, and voices which this definition include, give the Rio definition robust credibility. The Treaty appears in four languages and was composed by educators and non-governmental organizations from five continents (Russell et al.). The resulting sixteen guiding principles reflect the culturally diverse ways in which humans interact and relate with their environment.

The following six principles (as numbered in the treaty) help to reflect the essence of environmental education as defined by the Treaty:

2. Environmental education, whether formal, non-formal or informal, should be grounded in critical and innovative thinking in any time or place, promoting the transformation and reconstruction of society.
4. Environmental education is not neutral but is value based. It is an act for social transformation.
5. Environmental education must involve a holistic approach and thus an interdisciplinary focus in the relations between human beings, nature and the universe.
7. Environmental education should treat critical global issues, their causes and interrelationships with a systemic approach and within their social and historical contexts. Fundamental issues in relation to development and the environment such as population, health, peace, human rights, democracy, hunger, degradation of flora and fauna, should be perceived in this

manner.

15. Environmental education must integrate knowledge, skills, values, attitudes and actions. It should convert every opportunity into an educational experience for sustainable societies.

16. Education must help develop an ethical awareness of all forms of life with which humans share this planet, respect all life cycles and impose limits on human exploitation of other forms of life.

(“Treaty on Environmental Education,” 1992, section II)

Jickling (1997) suggests that environmental education is caught between two ends of a spectrum. One end demands a clear definition of environmental education, while the other end accepts a flexible, vision-dependent, dynamic and multi-faceted conceptualization of environmental education. Jickling (1997) encourages continued discussion in “defining environmental education” and adds that including a process-oriented approach will complement the already existing product-oriented approach.

For the purpose of this study, environmental education will be defined as “a values-based approach to education based on transforming attitudes and beliefs towards the natural environment, emphasizing respectful and knowledgeable human/nature relationships.” Although no agreed upon definition presently exists, the on going discussion contributes to the development of the field and encourages reflection in practitioners and academics alike. The following explores

various perspectives in environmental education. These perspectives offer insight into the difficulties associated with defining environmental education.

The following historical examination of environmental education provides greater context for understanding how various perspectives in the discipline have emerged.

### **Environmental Education Background**

Environmental education emerged as a discipline in response to growing concern over issues affecting the natural environment. The first use of the term “environmental education” can be traced back to Bill Stapp in 1969 (Gilbertson et al., 2006; Jickling, 1998). Stapp and colleagues discussed the challenges associated with traffic congestion, air and water pollution, and pesticide use (among others) and determined an educational approach was needed which would help citizens in decision-making related to such issues. They termed this “environmental education” (Jickling, 1998).

Three years later, the United Nations Conference on the Human Environment took place and is regarded by many people as the first international event to place the environment on the international political agenda (Greenwood et al., 2009). Despite the human-centred sentiment of the conference proceedings proclamation, this conference helped to forge a union between environment and education on the international stage (Greenwood et al., 2009).

The Human Environment conference, often referred as the Stockholm conference, led to the creation of the United Nations Environment Program (UNEP) (Greenwood et al., 2009). UNEP and the United Nations Educational,

Scientific, and Cultural Organization (UNESCO) later partnered to establish the International Environmental Education Program (IEEP) (Greenwood et al., 2009).

In 1975, the United Nations held the International Environmental Education Workshop in Belgrade (Greenwood et al., 2009). Two years later, the Intergovernmental Conference on Environmental Education developed the Tbilisi Declaration. Both the Belgrade charter and the Tbilisi Declaration presented strong support for education in reforming global environmental issues.

However, the emphasis on education evident in the Belgrade Charter and Tbilisi Declaration shifted towards sustainability and sustainable development in the 1980s when the World Commission on Environment and Development issued the *Our Common Future* document (Greenwood et al., 2009). This document, also known as the Bruntland Report, introduced the concept of sustainable development to the world (Greenwood et al., 2009). Despite contributing to the global discussion on environment, the use of sustainability and sustainable development did little to challenge the ways in which economic growth is practiced in developed countries (Greenwood et al., 2009).

Similarly, the 1992 United Nations Conference on Environment and Development, often referred to as the Earth Summit, embraced sustainability and sustainable development (Greenwood et al., 2009). However, the resulting document of the conference, known as *Agenda 21*, suggests that educational reform in developed nations requires a complete transformation and re-thinking if environment and development are to be reconciled in future generations (Greenwood et al., 2009).

The international landmarks discussed above have helped garner support for environmental education, and have contributed to an international discussion on environmental education (Greenwood et al., 2009). However, environmental educators throughout the world are calling for reform to global education systems in which hegemonic conceptions prevent the exploration and understanding of environment and culture (Greenwood et al., 2009). In North America, the discourse on environmental education has been supported in part by the creation of the North American Association for Environmental Education (Meyers et al., 2007).

Founded in 1971, the NAAEE's mission reads, "The North American Association for Environmental Education promotes excellence in environmental education and serves environmental educators for the purpose of achieving environmental literacy in order for present and future generations to benefit from a safe and healthy environment and a better quality of life" (NAAEE, 2009a, para. 1). The NAAEE represents a coalition of educators, academics, students, community members, and non-governmental organizations (NAAEE, 2010). Together, these groups have worked to further environmental education in Canada, Mexico, and the United States (NAAEE, 2009b). The annual NAAEE conference has made way for a research symposium designed to further the field of environmental education and research in environmental education (Meyers et al., 2007).

In 1994, the NAAEE released voluntary guidelines for excellence in environmental education in an attempt to create consistency within the practice of

environmental education (Simmons, 1995). However, moves to create standards in environmental education have been highly criticized (Greenwood et al., 2009; Hart et al., 1999; Jickling, 1997). Hart et al. (1999) state that standardization of environmental education curriculum results in a lack of engagement on the part of educators, and that this translates into lack of ownership and lack of commitment in programming. Gruenewald (2004) suggested that standards in education are based on an individualistic tendency toward competition in the global economic market and that such ways of thinking are anti-ecological. Similarly, in the creation of standards, questions have been raised over “whose version of environmental education gets to count?” (Russell et al., 2000, p. 198).

Contrary to the guidelines put forth by the NAAEE, Wals and van der Weij (1997) suggested that environmental education standards should focus on the process of learning and not the outcomes and/or products. By doing so, environmental education can deliver locally relevant material to students (Wals & van der Weij, 1997). As stated by Wals and van der Weij (1997), “good environmental education also enhances a critical stance towards the world and toward oneself by promoting discourse, debate and reflection” (p. 5).

### **Environmental Education in Canada**

Within a Canadian context, some environmental education practitioners have borrowed heavily from U.S. based programs such as Project WILD, Earthkeepers, and Project Learning Tree (Hart, 1996; Russell et al., 2000). The ease of such “ready made” programs make them a useful resource for teachers, especially given the “requirement heavy” nature of school-based education

(Grueneweld, 2004; Russell et al., 2000). However, Henderson and Potter (2001) suggest that there is also a distinctly Canadian experience involved in outdoor education (which is one approach to environmental education). Therefore, becoming too closely linked with American perspectives of environmental education may not honour the uniqueness of a Canadian experience of environmental education.

As Henderson and Potter (2001) posit, the Canadian context of environmental and outdoor education is unique in North America and the world. Despite sharing some commonalities with American programs (Russell et al., 2000). As students learn to travel on the land (outdoor education), an inherent learning of the land (environmental education) often follows (Henderson & Potter, 2001). To understand environmental education in Canada is to understand how environmental education has been shaped by a distinctly Canadian landscape. Although the majority of Canadians live in urban settings, the Canadian experience of environmental education is often in a “visceral reality-based arena” (Henderson & Potter, 2001, p. 32). That is, students’ experience of environmental education is shaped by their experiences on and with the land. This uniquely Canadian context influences how environmental education is practiced and experienced by both teachers and students.

Summarizing the essence of environmental education in Canada is further complicated by the diversity of places in which environmental education is practiced (Russell et al., 2000). As Russell and her colleagues note, environmental education takes place in many settings and in many forms. Zoos, museums,

summer camps, schools and community centres can provide the backdrop for environmental education programs. Moreover, in schools environmental education can be found in science, geography, and English courses, among other disciplines (Russell et al., 2000). Those who teach environmental education can be teachers, outdoor leaders, camp counselors, parents, park staff, and child-care providers among others. This reflects the inherently interdisciplinary and political nature of environmental education (Greenwood et al., 2009). To appreciate environmental education in Canada, one must appreciate the diversity and distinctness of the various approaches in delivering environmental education.

The birth of school-based environmental education programs in Canada occurred in the early 1970s (Russell et al., 2000). However, a national discussion on environmental education didn't begin until the inception of the Canadian Network for Environmental Education and Communication (EECOM) in 1993, and the establishment of the *Canadian Journal of Environmental Education* in 1996 (Russell et al., 2000). Both organizations have fostered, and given forum for a national dialogue on environmental education (Russell et al., 2000).

In 1990 the Government of Canada released the *Green Plan*, in which a commitment to the environmental education of all Canadian citizens was made. Perceived by some as a unifying force for environmental education, the commitment was dropped in 1995 (Mrazek, 1996). Despite such inconsistencies at a national level, environmental education in schools has been moved forward through distinctly Canadian programs such as the Green Schools program in Ontario, and Destination Conservation in Alberta and British Columbia (Russell



et al., 2000). The development of environmental education in Ontario, specifically, is explored below.

### **Environmental Education in Ontario**

Environmental education in Ontario has had an unstable history in terms of inclusion in school curricula (Puk & Behm, 2003). For example, after establishing an elective *Environmental Science* course in 1998, the Ontario Ministry of Education removed the course from the Ontario school curricula in 2000. The removal of the Environmental Science course was replaced with revised curriculum in the sciences and geography courses in which environmental components were to be integrated (Puk & Behm, 2003).

In 1998 the Ontario Society of Environmental Educators evaluated the number of specific curriculum guidelines pertaining to environmental education in grades nine and ten science courses. It was determined that very little of the grade nine and ten curriculum included environmental education, with a range from 13.6% - 36.5% of the overall curriculum in grades nine and ten related to environmental education (OSEE, 1998). As Puk & Behm (2003) stated, this came as no surprise as much of environmental education would have occurred in the elective *Environmental Science* course.

In 2000 Puk and Behm (2003) conducted a survey of 226 teachers of grades 9-12, representing all regions of the province, to determine the amount of time dedicated to each curriculum strand. Their results concluded that very little environmental education was taught, and indicated two reasons for this occurrence (Puk & Behm, 2003). First, teachers reported that very little

environmental curriculum was included in the revised curriculum (Puk & Behm, 2003). Secondly, the revised curriculum was quite extensive and did not allow for additional material to be added (such as environmental education) (Puk & Behm, 2003).

In 2007, the Working Group on Environmental Education, chaired by Dr. Roberta Bondar, released the *Shaping our Schools, Shaping our Future* document. This document included recommendations for improving environmental education in Ontario schools. In response to this document, the Ministry of Education released *Ready, Set, Green! Tips, Techniques and Resources for Ontario Educators* (Ontario Ministry of Education, 2007), which included stories of environmentally-based projects, ideas for educators, resources for educators, and a list of locally developed courses focused on environmental education (Ontario Ministry of Education, 2007). In 2009, the Ministry of Education released *Environmental Education: Scope and Sequence of Expectations* for grades 1-8 and 9-12 (Ontario Ministry of Education, 2009a, 2009b). These documents suggested links between environmental education and the current curriculum, suggesting that teachers might “infuse” environmental education into existing curriculum. Puk and Behm (2001) state that “infusion” is offered as a means of strengthening environmental education because it occurs in more subject areas. However, the results of their 2000 study indicate that infusion, in the case of the Ontario Ministry of Education curriculum, resulted in dilution (Puk & Behm, 2001).

In contrast to the dilution described by Puk and Behm (2001), integrated programs have been offered as an alternative approach to infusion. In integrated programs students often spend the entire school day together learning material that is woven together based on interconnected issues and themes rather than subjects (Pike & Selby, 1999). Benefits of such programs have been found to include an increase in students' interpersonal skills (Russell & Burton, 2000), employ differentiated learning strategies (Lieberman & Hoody, 1998), and foster moral and spiritual growth in students (Russell & Burton, 2000). Integrated programs have a rich history in Ontario where some programs have managed to thrive despite the constraints of curriculum reform experienced in the 1990s and early 2000s (Russell & Burton, 2000; Sharpe & Breunig, 2009).

Despite the reported success of such programs, integrating environmental education into existing curriculum raises an interesting issue. As Gruenewald (2004) suggested, linking environmental education with curriculum standards supports values in education that should be questioned and reformed. Alternately, he suggests that environmental education should exist outside of traditional education in order to challenge the social, political, cultural and economic underpinnings of ecological problems (Gruenewald, 2004). Bondar et al. (2007) stated that integrating environmental education into curriculum standards is long overdue, and reflects a growing awareness of the need to educate youth on issues of the environment in addition to an increasing concern for environmental issues. Regardless of where environmental education is situated in school curriculum, it is agreed by many that preparing students to be responsible global citizens is

inextricably linked to environmental education (Bondar et al., 2007; Fortino, 1997; Orr, 1992, 2004).

### **Teaching**

The Ontario Teachers' Pension Plan reported that 20-30% of new plan members withdraw within the first three years of enrollment (Ontario College of Teachers, 2003a). Similar statistics exist for Manitoba (Ewart, 2009), suggesting initial challenges in teaching may result in teachers leaving the profession prematurely. In the United States, it has been found that new teachers often leave the profession within the first five years of teaching (Darling-Hammond, 2003; Ingersoll & Smith, 2003; Ewart, 2009).

In Ontario, particular attention has been paid to mentoring new teachers to prevent high rates of teacher attrition (OCT, 2003b). As the Ontario College of Teachers (OCT, 2003b) states, "novice teachers are struggling to cope despite their optimism and hard work" (p. 1). The priorities for new teachers are reported as "survival skills" and "practical knowledge" (OCT, 2003a, p. 6), and teachers often leave the profession due to inadequate pre-service training (Ewart, 2009).

As the OCT (2003a) stated, "choosing to become a teacher is a decision of the heart as well as the mind" (p. 1). Teachers must connect with the material, they must connect with their students and they must facilitate student connection to the material (Palmer, 1998). In environmental education, nurturing curiosity, and engaging students in learning while teaching across disciplines in order that students may understand and address the complexity of environmental challenges is an added responsibility that falls on teachers (NAAEE, 2000).

**Environmental educators**

Today's teachers face enormous social, political and environmental challenges (Day & Gu, 2009; May, 2000). In environmental education programs, the effect of these stressors is often increased exponentially (NAAEE, 2000) as, entire environmental education programs are often staffed by only one or two committed individuals (Russell et al., 2000).

In an attempt to better understand what factors contribute to the success of environmental educators, Theodore May (2000) conducted a nation-wide survey in the United States to address the gap in environmental educator standards. May (2000) completed 18 in-person interviews with established and peer-identified environmental educators who represented a balance in gender, socio-economic status, community size, and who worked with grades 3-8. The results of these interviews were combined with results from an in-depth literature review and were used to create a framework of factors that contribute to the success of environmental educators. The framework was returned to the interview participants for review and was met with overwhelming support.

May (2000) used the framework to create a survey that was completed by 328 environmental educators across the United States. Responses to the survey elucidate characteristics of successful environmental educators. May's (2000) findings clearly outline the breadth and depth of expectations related to environmental educators.

Based on survey responses, May (2000) determined that successful environmental educators must have a knowledge base related to environmental

education comprised of local cultural understanding, teaching and learning theory, and an understanding of ecological and sociopolitical issues. Additionally, it was found that environmental educators must have a diversified and well-tuned set of skills, an ability to integrate curriculum through facilitation and listening skills and that environmental educators must navigate various teaching conditions related to the teaching climate in the school, organization, and/or community.

Environmental educators must exhibit a “can-do” attitude, an infectious passion for environmental education and teaching, and an investment of themselves including time, energy, and abilities (May, 2000). It was found that environmental educators not only “talk the talk” but also “walk the walk” through practicing environmentally responsible behaviour, taking risks, and recharging themselves (May, 2000). The teaching methods used by many environmental educators are described as “constructivist, student-directed, and experiential in nature” (May, 2000, Appendix B). The results of May’s study echoed the sentiment of environmental educators who stated that “good environmental education is hard work” (Volk, 2003, p. 11).

Hart (1996) states that teachers and environmental educators are holders of tacit knowledge specific to their profession. That is, environmental educators may not be able to describe why they do what they do, only that it works. In examining teacher thinking and practice, Hart (1996) describes the humility expressed by environmental educators and that “their ideas are so fundamental to their practice that they are hidden from their own consciousness” (p. 78).

Little opportunity for formal training exists for environmental education as it does for other disciplines (Berkowitz, Ford, & Brewer, 2004; NAAEE, 2000; Puk & Behm, 2003; Russell et al., 2000). The absence of such training and/or comprehensive framework has resulted in a gap between the intended outcomes of environmental education and the skills of those delivering the material (Bondar et al., 2007). Providing a solid foundation in environmental education is important so teachers do not become dependent on “ready made” environmental education activities (Puk & Behm, 2003). Moreover, there is a need for pre-service training in environmental education and opportunities for specialization in environmental education (Puk & Behm, 2003).

Today, formal teacher training courses in environmental science and outdoor and experiential education (which may include environmental education) exist as Additional Qualification (AQ) courses (OCT, 2010). Qualified teachers can register for AQ courses in preparation for specialized roles (OCT, 2010) and professional development.

Environmental education is also included in some pre-service teacher training programs, most notably the Outdoor and Experiential Education program at Queen’s University, and Lakehead University’s Outdoor Ecological and Experiential Education program. AQ courses and pre-service teaching programs in environmental education are well suited to individuals with pre-existing interests in environmental education. However, the placement of these AQ courses and pre-service programs outside of required pre-service training suggests that environmental education is not yet a priority in the overall training of

teachers (Bondar et al., 2007). As stated by Bondar et al. (2007), “If environmental education is to succeed in Ontario, it must without question be introduced as a requisite part of teacher training (p. 15).

### **Challenges Associated with Environmental Education**

In addition to the challenges in the field of environmental education mentioned above, challenges associated with learning about environmental issues have also been identified. Environmental education has been criticized for overwhelming, disempowering or paralyzing students (Fallis, 1991; Hicks & Holden, 1995). Lertzman (2008) suggests environmental awareness can result in apathy in both teachers and students.

Resilience literature suggests that distress or stress (with environmental issues, for example) can lead to an enhanced vulnerability to subsequent experiences with the stressor (Carver, 1998). In fact, Carver stated that with increased exposure individuals may develop deeper impulses to “give up,” and that these impulses increase in severity with each additional exposure. Such responses have significant implications for environmental educators. Given the enormity of the environmental challenges facing humanity today and the history of the nature-human disconnect, the success and resilience of environmental educators becomes even more relevant. Eco-psychology helps to explain the nature-human disconnect.

Eco-psychology posits humans have a deep connection to the ecological world termed an “ecological self.” Through increasing urban-industrial culture, our relationship with our “ecological self” has been neglected, and in some cases



severed (Du Nann Winter, 2001). In order to solve ecological problems, humans need to reconnect with this ecological self, and in doing so will likely encounter feelings such as anxiety, sadness, depression, fear, despair, shame and anger (Du Nann Winter, 2001; Windle, 1995). These emotions are characteristic of mourning.

Windle (1995) describes the experience of mourning the loss of nature as similar to mourning the loss of a loved one. The study of ecology, and similar environmental disciplines, are described as “a science of relationships” (Windle, 1995, p. 140). As a result of these relationships, biologists, and environmentalists are at particular risk of emotional trauma due to witnessing increasing environmental adversity as they are intimately connected to the species and ecosystems they study. This intimate connection is why environmental educators are the focus of this study.

Although it is possible not all environmental educators will identify with feelings of despair, loss, and discouragement in the face of increasing environmental adversity, it is likely that some will. In exploring how humans move past such feelings towards making positive environmental change (Du Nann Winter, 2001; Macy & Young Brown, 1998), resilient environmental educators may offer insight.

### **Relevance of This Research Project**

Research in education has flourished in the last century with discussions on how to enhance student learning and educational reform as examples (Dias Neves, 2005). Research on educators themselves, however, has been somewhat

lacking (Day & Gu, 2009; Dias Neves, 2005), with little research focused on experienced teachers, or teachers in later years of practice (Day & Gu, 2009).

Similarly, little research on resilience and resiliency has focused on adults (Campbell-Sills et al., 2006; Werner & Johnson, 1999). Although publications in environmental education have emerged that explore the experiences of environmental educators, much research remains to be done (Dias Neves; May, 2000; Volk, 2003).

My research project will help to uncover what contributes to resilience in environmental educators. I hope that such knowledge will lead to creative conditions to then foster these qualities in educators currently working in, and those who are entering, the field of environmental education. Moreover, findings from this research project may provide direction and insight into teacher training programs in environmental education.

Additionally, understanding resiliency in environmental educators may lead to new directions for exploration. From the review of the literature above, it is evident that as a field we must move towards action. The health and well-being of all living things demands humans explore new ways of viewing their place in the global ecosystem.

### **Concluding Remarks**

The review of literature has helped to better understand *who* environmental educators are and the challenges they face. In addition to the social and political stress experienced by teachers, environmental educators harbour the

added challenge of facing increasing environmental adversity. In other words, their subject matter is continually under threat.

Resiliency studies show that people respond to stressful situations in different ways. Environmental educators who have long-standing careers in this field are resilient, but how they achieve and experience this resilience has not yet been explored. This study explored how, and under what conditions, environmental educators experience such resilience.

### CHAPTER THREE: METHODS

Chapter Three introduces the theoretical perspective of this study, research methodology, the methods used in conducting the study including data analysis, and concludes with an examination of the ethical considerations associated with this study. The study was guided by the research question, “How do environmental educators experience resilience in the face of increasing environmental adversity?” The research question was further explored through the following sub-questions:

1. How do environmental educators experience stressors or challenges?
2. What internal and environmental factors contribute to resiliency in environmental educators?
3. How do environmental educators experience the transactional process of environmental and internal factors in resilience?
4. How do environmental educators experience resiliency when faced with the stressor of environmental challenges?

#### Theoretical Perspective

The field of psychology and the *The Resilience Framework* (Kumpfer, 1999) help to theoretically frame this study. First, the field of psychology helps explain the negative psychological responses that can be experienced in the face of increasing environmental adversity. Moreover, psychology helps to explain how individuals overcome these psychological challenges and provides an approach from which to conceptualize the study of resilience (Ingram & Price, 2001). Second, *The Resilience Framework* provides an organizational framework

in which the results of this study can be understood. *The Resilience Framework* helped in organizing the data results for presentation and allows for conceptualizing the results of this study in relation to previous work on resilience.

I used a qualitative research methodology to explore the research topic. Many research approaches exist within qualitative research and the interpretivist approach of hermeneutical phenomenology was used in this study. Qualitative research, interpretivism, and hermeneutical phenomenology are explored below.

### **Qualitative Research**

Qualitative research seeks to understand complex problems with detailed understanding (Creswell, 2007). Qualitative research is concerned with the “how” and “why” of a human experience (Kvale & Brinkmann, 2009) and does not seek generalizations, but rather is employed to draw out specifics (Pinnegar & Daynes, 2006). As such, I chose qualitative research to be the foundation of this research project.

Qualitative research is grounded in interpretivism, which developed in response to positivism and challenged the idea that human behaviour can be studied in the same way topics in chemistry and physics are studied (Creswell, 2007; Patton, 1990; Willis, 2007). Interpretivism seeks to explain not only the effect of the environment on the individual, but also how the individual interprets his/her environment and the world around them (Creswell 2007; Patton, 1990; Willis, 2007).

This research project sought to capture participants' reflections on their experiences within the context of their practice of environmental education. The following section outlines the research methodology used in this project.

### **Methodology**

To best learn about a person, humans pose questions, engage in conversation, listen to one's hopes, dreams, fears, and try to understand another's life context (Kvale & Brinkman, 2009; van Manen, 1984). In order to best understand how environmental educators experience resilience, it too is important to understand their experiences, challenges, hopes and strengths. Through understanding where this study is situated methodologically, one can better understand the process and results of this research project. Similarly, it is important to understand how my life context influenced my role as researcher in this project. The following section on reflexivity helps to situate my role as researcher within this project.

### **Reflexivity**

The disclosing of one's underlying assumptions typically takes place prior to, and during, the research process (Laverty, 2003) and was important in achieving reflexivity in my research process (Colaizzi, 1978; Laverty, 2003). Reflexivity is the art of reflecting on one's actions as a researcher (Willis, 2007). To practice reflexivity, the researcher must understand her biases and the impact of these biases, such as what data was analyzed and what was ignored (Fontana & Frey, 2005). It was my intention to be as reflexive as possible in carrying out this study. To this end, I kept research notes during the research process as

recommended in hermeneutical research (Koch, 1995, 1996). These notes assisted in facilitating my own reflective process, and helped capture my initial assumptions and opinions throughout the interview process. Careful reviewing of these notes was useful in delving critically into the data analysis phase. Below I explain the roots of this research project, and my underlying assumptions as a researcher.

**Roots of the research project.** This study came about through my own experiences as a high school teacher of an integrated semester program. The program used innovative projects designed to foster ecological literacy including expeditionary learning, and student-designed experiential learning assignments. I was surprised by the feelings of hopelessness expressed by some of my students towards the state of the environment. Several of my students suggested that our environmental problems were so severe and large that overcoming these challenges was impossible.

The negative environmental outlook expressed by some of my students led me to question why some of us remain optimistic for the future, while others become discouraged. More significantly I wondered why my fellow teachers and I, who knew the most about the challenges facing human life, maintained hopefulness while our students who had considerably less knowledge about the complexity of environmental issues expressed such despair.

As will be discussed below, one's background and history influence the interpretation of data. Developing awareness of one's underlying assumptions, and how these assumptions might influence interpretation of research data,

distinguishes hermeneutical phenomenology from phenomenology (Lavery, 2003). My underlying assumptions related to environmental education are explored below.

**Underlying assumptions.** Creswell (2007) emphasized the need to “bracket” personal experience and stresses the difficulty in doing so, while van Manen (1997) claims an interpretivist approach to phenomenology (such as hermeneutics) places bracketing and interpretation at odds. Van Manen suggests that because each researcher has values, these values will affect the interpretation of data and that bracketing out one’s experience is counter to data analysis. He argues that, it is important for me as a researcher to identify my values, background and assumptions that may influence my research. This will provide the reader with an understanding of the influences that acted on the interpretation of the data.

It is important, then, for me to note my strong commitment to, and valuing of environmental education. I am an advocate for experiential and outdoor education, and have worked as an environmental educator for many years. These values are at the heart of this research project. Additionally, I assume that individuals engaged in environmental education are committed educators with a desire to inspire change. As a student and teacher of environmental education I believe in the value of such programs and advocate for an increase in environmental education opportunities for students.

My personal experiences, values and beliefs, influenced the interpretation of data in this research project. My underlying assumptions include:



- Individuals engaged in environmental education are committed educators with a desire to inspire change.
- Environmental educators believe wholeheartedly in their work; environmental educators not only talk the talk, but also walk the walk.
- Environmental educators are psychologically affected by the environmental challenges facing humanity.

The nature of the research questions demanded a research methodology that would allow the essence of participants' experience to emerge. Hermeneutics seeks to understand the world as perceived by the person, or persons, being studied and recognizes that my own experiences will influence my interpretation of the phenomena.

### **Hermeneutics**

Hermeneutics as a qualitative research approach is concerned with the "lived experience" of the individuals being studied (Willis, 2007) and is a branch of phenomenology. Phenomenology is rooted in the work of German philosopher Edmund Husserl and developed partly as a critical response to positivism (Hesse-Biber & Leavy, 2006; Willis, 2007). Husserl influenced phenomenology directly through his work on the constructed social reality and indirectly through his influence on student Martin Heidegger (Willis, 2007). Heidegger went on to form the foundational philosophy of hermeneutic phenomenology (Laverty, 2003) Husserl introduced the idea of the "life-world," a concept that radically shaped interpretivist research (Smith, 1991).

Despite increasing popularity, confusion between phenomenology and hermeneutical phenomenology continues (Lavery, 2003). Hermeneutical phenomenology is concerned with the interpretation of “texts” of life (van Manen, 1997). In hermeneutics, the researcher engages in the description of the phenomena and uses his/her interpretations to draw meaning. This differs from transcendental, or psychological phenomenology, in which the emphasis of interpretation exists more with the participants and less with the researcher (Moustakas, 1994).

Heidegger questioned the Cartesian objectivity in phenomenology that suggests the researcher’s preconceptions can be “bracketed out” of the interpretation process (Koch, 1996). Heidegger believed that a researcher’s background and expectations help to create an understanding of the phenomena (Koch, 1996) and cannot be “bracketed out” (van Manen, 1997). In hermeneutical phenomenology, “data generated by the participant is fused with the experiences of the researcher and placed in context” (Koch, 1996, p. 176).

Heidegger’s own student, Gadamer, further extended the understanding of hermeneutical phenomenology (Koch, 1996). Gadamer introduced three major concepts in hermeneutics including the hermeneutic circle, fusion of horizons and dialogue. These concepts are explored below.

**Hermeneutic circle.** Gadamer extended Heidegger’s notion of the hermeneutic circle to place greater emphasis on language. Gadamer suggests that understanding is a “mode of being” and that understanding occurs reciprocally through conversation. Through conversation one does not come to understand

*better*, but *differently*. Heidegger explained this as “moving dialectically between the part and the whole” (Koch, 1996, p. 176).

As a researcher, keeping detailed ongoing research notes assisted me in placing myself within the hermeneutic circle. As Bleicher (1980) stated, “the hermeneutic circle cannot be avoided, rather it is a matter of getting into it properly” (p. 103), and “getting into the hermeneutical circle properly relies on maintaining a reflexive journal” (Koch, 1996, p. 178). The use of a research journal helped me to situate my background and history within the interpretation of data. Moreover, the use of a research journal promoted good judgment and responsible principles (Laverty, 2003) by encouraging insight, sensitivity to language, reflection and promoting openness to experience (van Manen, 1997). Research techniques, such as the use of a research journal, aided in the fusion of horizons between myself, and the research participants.

**Fusions of horizons.** Gadamer described horizons as all that can be seen from a particular vantage point. Fusion “is the coming together of different vantage points” (Koch, 1996, p. 177). Whereas Husserlian phenomenology uses a single point of view to understand the experience of “the other” (Koch, 1996), hermeneutic phenomenology is concerned with the meeting of points of view in which neither researcher nor participant “assumes a privileged position in interpretation” (Koch, 1996, p. 177). In this way, the researcher participates in making the data (Koch, 1996).

In making the data, it is important to explicitly state how my assumptions and background as a researcher influenced the interpretation of the data (Laverty,

2003). The section on reflexivity (see above) including “roots of the research project” and “underlying assumptions” provide for the reader a means of understanding how I influenced the “making of the data.” Such transparency is a marker of hermeneutics (Laverty, 2003).

**Dialogue.** Gadamer’s metaphor of dialogue was influenced by Socrates who recognized three different types of queries including rhetorical, pedagogical and genuine questions (Koch, 1996). Of these three, genuine questions were believed by Gadamer to define true dialogue and a revealing of that which is questionable (Koch, 1996). True dialogue is accomplished in research using conversational and non-directive (unstructured) interviewing techniques. The approach is open and allows the participant to help guide the interview process.

As such, I used semi-structured interviews to allow participants to somewhat help guide the interview process. The prepared questions helped begin discussion and reflected the desire to understand the experience of resilience in participants.

**Background and history.** Understanding of “experiences” involves an interpretation that is shaped by one’s background and history. My own background and history influenced my interpretation of the participant’s experiences as discussed above. The participants’ interpretation of their experiences, were similarly influenced by their own background and history. It was important, therefore to understand the background and history of each participant in order to understand her or his experience of resilience. A summary of the participants is presented below. Additionally, participants’ histories are

presented in Chapter Four under “Narrative Descriptions.” However, what shapes an individual is difficult to summarize in a table (as presented below) or brief narrative (Chapter Four). As such, the background and history of the participants is most poignantly imbedded in the quotations and data results captured in the interview process. I now turn to the process of collecting below.

## **Methods**

The following section outlines the data collection process including participant sampling, recruitment of participants, and overview of research participants, as well as details on the data collection process, data analysis, and trustworthiness.

### **Participant Sampling**

The selection of participants was conducted using a purposeful sampling strategy based on criteria. Purposeful sampling allows the researcher to deliberately select individuals for a study based on his/her understanding of the phenomena or research problem (Creswell, 2007; Patton, 1990). Creswell explains that researchers can consider sampling based on the site, the event or process, or at the participant level. These considerations can be used in conjunction or as stand-alone sampling procedures.

For phenomenological studies, such as hermeneutics, Creswell (2007) recommends criterion sampling, or sampling based on the condition that all participants have experienced the phenomena. In order to ensure quality of phenomenological research, Creswell emphasizes the importance of choosing

participants who have experienced the phenomena in question. This allows the researcher to offer an understanding common to all participants.

In this study, the following three criterion were used to assess appropriateness for participation in this study:

1. The individual must have experienced resilience in environmental education evidenced by their prolonged involvement in the field. A minimum of five years engaged in teaching environmental education was used to determine if the individual demonstrated resilience.
2. Participants must have also identified with the idea that they have experienced a negative psychological response to the confrontation of environmental challenges. It is important to note that *how* participants describe this experience may differ.
3. The individual must have had environmental education at the centre of their teaching.

For the purpose of this study, I also hoped to select participants who were First Nation environmental educators, and female environmental educators - voices that have often been silent in traditional environmental education research (Gough, 1997). However, nearly all participants identified as white. I included participants with a variety of roles in environmental education (such as teachers, farmers, NGO employees, and government employees). This has been referred to by Creswell (2007) as maximum variation and includes the sampling of

individuals with a variety of perspectives. The following describes the process used to recruiting participants.

### **Recruiting Participants**

In recruiting participants for this study, I contacted environmental education organizations within Ontario, and used word-of-mouth. I contacted the Council of Outdoor Educators of Ontario (COEO) and the Ontario Society of Environmental Educators (OSEE) to connect with individuals who may have experienced the phenomena. In both cases, I sent a recruitment advertisement by email to the contact person listed by the organization (Appendix A). OSEE forwarded the recruitment notice to Environmental Education Ontario (EEON). Both COEO and EEON posted the advertisement to their members.

I created an email account specifically for this study through which all electronic contact took place. Interested individuals responded to the advertisement recruitment through this email account. Nine individuals contacted me through the email recruitment process and four of these individuals participated in interviews. One of these interviews was not included in data analysis (and is discussed under “research participants”).

Most respondents included information in their email detailing their involvement in environmental education, and length of time working as an environmental educator. I used this information to determine if the individual was appropriate for the study. I also considered gender, type of involvement in environmental education (e.g. certified teacher, government employee) in order to assemble a breadth of voice from the field.

After respondents contacted me through email, I arranged a phone time to discuss potential participation in the study. In the phone conversation I reviewed the purpose of the study and the criteria. I confirmed that the potential participant had in fact experienced the phenomena being explored and met all of the criteria. When I had determined that the individual was appropriate for the study we then arranged an interview time.

In addition to recruiting participants through email advertisements, I also used my existing network of environmental educators. I contacted eight individuals through my personal network of environmental educators. Four of these individuals participated in interviews.

Personal contacts were accessed by phone using the telephone script (Appendix B), and through email (Appendix C). In the case of telephone recruitment, I explained the nature of the study, the criteria for the study and what was involved. Potential participants were asked to consider the study and reply to my request at a later time. It was made clear to participants that participation was voluntary, and that no pressure existed to participate in the study. In the case of email recruitment, I sent my personal contacts a brief email outlining my interest in discussing participation in the study, and attached the email recruitment notice. Two individuals from my personal network were contacted via email. One of these individuals participated in an interview.

Once data collection began, it became apparent that telephone interviews would allow me to capture the experience of individuals beyond the scope of my travel abilities. An amendment was made to my ethics application and permission



was sought to conduct telephone interviews as well as in-person interviews. Only one in-depth, initial interview took place over the phone. Consent forms were signed prior to the commencement of this telephone interview via mail.

### **Research Participants**

Van Manen (1997) recommends studying between 3-10 subjects in phenomenological studies. In total, I interviewed eight individuals. However, it became apparent during one interview that the participant did not meet all criteria for participation in my study. Despite pre-screening efforts, it turned out that this individual had not had an opportunity to spend five years working within the field of environmental education. The interview was completed and all the data transcribed 'providing insight into the perspective of an environmental educator starting in the field. However, her data was not included in the analysis process. Her time and effort are nonetheless greatly appreciated.

Two participants (John and Janice) are a married couple and requested to be interviewed together. I agreed to this. They responded to questions separately in some cases, and agreed with one another's responses in other instances. Such instances are made explicit in the results.

In all but one case the use of pseudonyms have been used to help protect the identity of the participant. One participant, Jane Hayes, requested her name be used rather than a pseudonym. Identifying features have been removed in further attempts to provide confidentiality to the participants.

The following presents a summary of the participants including participant age, number of years working in environmental education, and current position in

environmental education. A brief synopsis of the participant pool is also described.

Table 1

*Summary of Participants*

Participant	Description	Age	Gender	Years working in environmental education	Racial/Ethnic Identity
Jane	Founder of Garden Jane	40	Female	15	White
Henry	Teacher (Catholic)	57	Male	25	White
John	Farmer	62	Male	40	White
Janice	Farmer	51	Female	30	White/East Indian
Rachel	Teacher (Public) Educator within government organization	33	Female	15	White
Ralph		62	Male	35	White
Dave	Teacher (Public)	48	Male	20	White

Three participants are certified teachers; one worked within the Catholic School system and two worked within the Public School system in Ontario. One participant worked for a government organization, while another worked within a non-governmental organization. Two participants were farmers and worked in “informal” example of environmental education. Participants represented a variety of life-stages including expectant parents, parents of young families, parents of adult children, and grandparents.

Each participant has, beyond post-secondary education, additional qualifications (such as a Masters degree or teaching certification) in either education or environment related studies. All participants lived in Ontario, and at the time of the interview, each participant was working full-time. Although the criteria for the study specified a minimum of five years in environmental education, each participant has a minimum of 15 years experience. It is evident from the number of years each participant has spent working in environmental education that this participant pool included veteran environmental educators.

Although gender differences were not explicitly explored in this research project, I attempted to include equal voices of male and female environmental educators. Additionally, I intended to include at least one First Nations environmental educator. Although I made initial contact with a First Nations environmental educator, we were unable to schedule an interview within the timeline set forth for this project. The omission of at least one First Nations voice is a significant limitation of this study and is discussed in Chapter Five.

### **Data Collection Process**

Based on the scope and limitations of this project, I intended to interview between five and seven individuals. Given the response, a total of eight participants were interviewed. As discussed above, one interview data was not included in data analysis because the participant did not meet the study criteria.

**Interviews.** Data collection in hermeneutic studies primarily consists of in-depth interviews, and often multiple in-depth interviews (Koch, 1996). I conducted two interviews with each participant. Upon the start of the first

interview, the participant was presented with the official letter of invitation, and consent form. The content of the consent form was reviewed with the participant, and the form signed before commencement of the interview. A copy of the consent form and the official letter of invitation were left with the participant.

The first interview explored the questions as outlined in Appendix D. It is suggested that a follow-up interview be used to “fill out” the experiential descriptions of the first interview (van Manen, 1984). The second interview (Appendix E) in this study reviewed, expanded, and clarified material from the first interview. Participants had the opportunity to review interview transcripts to ensure accuracy.

**Interview scripts.** Creswell (2007) describes qualitative research questions as open-ended, evolving, and non-directional. Beginning a research questions with “what” or “how” is the essence of qualitative research (Creswell). The questions sought to explore how environmental educators overcome perceived challenges related to increasing environmental adversity, and what factors contributed to their resiliency.

Moustakas (1994) states that participants should be asked two broad general questions. He describes these questions as, “What have you experienced in terms of the phenomenon? What contexts or situations have typically influenced or affected your experiences of the phenomenon?” (p.61). Interview questions were broad at the outset and narrowed to more specific questions as the interview progressed (Appendix D).

I heeded Beardslee's (1989) advice that questions emphasizing the individuals' understanding of herself be asked such as, "Why did you become involved in environmental education?" Similarly, Beardslee (1989) recommends questions such as, "How would you advise others in this situation?" be used to prompt insightful reflection (p. 268). Questions were also designed to address the various components of resilience as described in Kumpfer's *Resilience Framework* such as environmental factors and internal competencies.

**Interview process.** The first interviews took place between September and November of 2009. Each interview was conducted at the convenience of the participant, at a location appropriate for interviewing and recording. One initial interview took place over the phone. All follow-up interviews took place over the phone.

The interview process allowed participants to reflect on their experiences as educators and lasted between 50 minutes and 80 minutes. The average length of interviews was 75 minutes, reflecting the "conversational" nature of hermeneutics in which the participant helps to guide the interview process. After the interview I made informal notes based on my own thoughts and initial impressions in a movement towards "fusing the horizons" of researcher and participant. I then transcribed the interview and expanded on my notes. All interview transcriptions were returned to participants for review. Two participants returned the interview transcript with changes; the changes only included clarification of details. No participant requested changes to the content.

Interviews were recorded and the data stored as recommended (Lavery, 2003; Patton, 1990; Seidman, 2006) and as required by the Brock University Research Ethics Board. Recordings were completed using a digital audio-recording device, with the data immediately transferred to a high-quality back-up file upon completion of the interview (Seidman, 2006).

The second interview (Appendix E) was arranged through email and took place over the phone. Each follow-up interview was conducted at least one week, and no more than three weeks, after the first interview. This timeline allowed the participant to reflect on the questions asked in the first interview and organize any further thoughts, yet was recent enough that the first interview could be easily remembered.

In one instance it was not possible to conduct the follow-up interview within the timeline stated above. Instead, the follow-up interview was conducted shortly after three weeks had passed. This lag in follow-up required a brief review of the initial interview with the participant. The participant had taken considerable care in reviewing the initial transcript and was therefore quite cognizant of the initial conversation during the follow-up interview.

The addition of follow-up questions was aimed to help facilitate the reflection process as well as prepare the participant for further examination of the topic of study. The follow-up interview served to strengthen the hermeneutic circle in which researcher and participant co-created meaning through confirming, and further discussing experiences. The inclusion of follow-up interviews allowed participants, and me, the opportunity to add additional information that may have

surfaced after the initial interview. Additionally, the follow-up interviews furthered Gadamer's notion of dialogue in which something not recognized before can be explored thereby also facilitating saturation of the data. This occurred as I sought clarification, and further discussed with participants' events from the first interview.

Follow-up questions were emailed to the participant prior to the telephone interview. However, three participants did not review the questions prior to the interview. Participants mentioned time as a factor in not reviewing questions. Follow-up questions were specific to each participant (see Appendix E). In three instances I required clarification, or more details, from the first interview. In all cases I based follow-up questions on my research notes from the first interview, and notes I formulated during the transcription process. Follow-up interviews mimicked the semi-structured style of the first interview. However, the specific nature of many of my questions had the effect of structuring the follow-up interview more so than the first interview. All follow-up interviews concluded with an opportunity for participants to add any further thoughts.

Follow-up interviews ranged from 20 minutes to 45 minutes. Detailed notes were taken during the follow-up interview and these notes were summarized and the accuracy confirmed by the participant. Interviews were recorded using a digital recording device (Seidman, 2006) and were copied onto the researcher's computer and stored as back up immediately following the interview. Upon completion of the project, all data was deleted from the researcher's computer.

Data has been stored and/or deleted as per the Brock University Research Ethics Board requirements.

### **Data Analysis**

Data analysis focused on the essence of the experience described by the participant and followed Colaizzi's (1978) recommendations for descriptive research in phenomenological studies. Colaizzi described the process through which phenomenological understanding can emerge and stresses that this process is not definitive, but rather flexible and free. Data analysis depends on the phenomena being studied, as well as the approach and interpretation of the researcher. The following steps put forth by Colaizzi describe the data analysis process used in this study:

- 1) interview transcripts (original protocols) were analyzed line by line for significant statements,
- 2) meanings were formulated for each significant statement, and organized to create meaning units,
- 3) meaning units were clustered into themes,
- 4) descriptive analysis was written for each thematic cluster,
- 5) an exhaustive statement of the phenomena is written.

The data analysis process required thoughtful reading of the interview transcripts, and continual movement between original protocols and the phases of analysis. Laverly (2003) describes this process as cyclical in nature and adding to the hermeneutic circle, and involved my careful reading and re-reading of interview scripts. As the transcriber of each interview, I was able to hear the voice



of the participant as I read. The subtleties communicated such as those through intonation and pauses (Seidman, 2006) influenced my interpretation of the participant's words. Such attention to language and meaning is critical to hermeneutical phenomenology.

I made informal notes as I transcribed original protocols, and again through each subsequent reading of the text. These informal notes were reviewed between the numerous readings and helped to shape the follow-up questions. As my thoughts percolated, I began the initial interpretation process. This movement between phases of analysis allowed for saturation of the data.

The process of organizing and interpreting the data was all-consuming. I included each significant statement titled with the meaning statement on an isolated strip of paper. Each strip was laid on the floor and then grouped according to similarities. As themes began to emerge, the meaning groups were titled intuitively with a theme to ease the process. Some meaning groups were titled with terms from resilience literature (such as "action," "reflection" and "self-insight"). In other instances, meaning groups required a title indicative of the unique nature of the theme (such as "planting seeds"). In this way, the process allowed for inductive and deductive interpretation.

The emergent groups of meaning statements were reviewed and amendments made. At times, groups of meaning statements were consolidated to reflect a large theme, while at other times groups were further divided to capture the nuances of the meaning. Such decisions were based on the ability of the theme to "speak to" the research question. The data were developed into themes

representing the fullness of the actions and experiences of the participant, providing an insightful response to the research question at hand (Kvale & Brinkmann, 2009). I then wrote descriptions of each theme. Themes reflected the fusion of horizons indicative of hermeneutics.

After theme groups were established I organized these groups using Kumpfer's Framework. Components of the Framework (such as environmental factors, internal competencies, and transactional process) were the broad organizational categories, while categories such as emotional, cognitive, spiritual, physical and social/behavioural competencies were smaller organizational themes. This process of organization allowed me to present the data results in the context of the *Resilience Framework*.

The final step, according to Colaizzi (1978), is to formulate an exhaustive description of the phenomena. As the purpose of this project was to understand "how environmental educators experience resilience in the face of increasing environmental adversity," I wrote an exhaustive description capturing the person/environment interactional process.

### **Trustworthiness**

Historically, qualitative research has come under heavy criticism concerning issues such as validity (Willis, 2007). Lack of rigour and claims that naturalistic inquiry is not disciplined enough, are commonly cited as weaknesses of qualitative research (Lincoln & Guba, 1985). It is important the researcher prove the findings have been gathered from a process of research that is reasonable, defensible and supportive of the researcher's claims. That is to say,

the emphasis is placed on the process rather than the results (Kvale & Brinkmann, 2009).

Trustworthiness is what allows one to believe the findings of the study are true; it is what convinces the reader that the findings are worth paying attention to (Lincoln & Guba, 1985). Reliability, and internal and external validity help to establish credibility in qualitative research.

**Reliability.** Recorded interviews and on-going reflection through the research project helps establish reliability within this study. My own process of reflection, through the use of notes following each interview helped to establish reliability. Reliability was further established through the cross-referencing of what occurred and what was recorded (Lather, 2007). Interviews were audio-recorded, and interview transcripts were returned to participants to confirm trueness. In the follow-up interviews, my notes were reviewed with participants to confirm accuracy and trueness.

Lather (2007) states including participant voice through quotes aids in reliability. To this end I have attempted to tell the story of resilience in environmental educators through quotations capturing the voice of the participants.

**Internal and external validity.** Internal validity is achieved through “prolonged engagement, thick description, thorough delineation of research process, and unobtrusive entry and participation in the setting” (Lather, 2007, p. 5162). It is the match between the categories and interpretations established by the researcher, and what is actually true for the participant (Lather, 2007). Stakes

(as cited in Creswell, 2007) suggest we ask, “Did we get the story right?” Internal validity is achieved through thick descriptions, which I offer in Chapter Four, where the rich meanings of the emergent themes are conveyed through the voices of the participants. Member-checking, the process of returning the transcript to the participant, further establishes internal validity.

External validity depends on the reader determining the transferability of the data results. It is “the shift from generalizability based on sampling, to reader assessment of transferability” (Lather, 2007, p. 5162). My acknowledgment of my pre-existing underlying assumptions allows the reader to understand the data in the context through which it was interpreted. Chapter 5 includes the limitations of this study allowing the reader greater context for applying transferability of this study.

Using credibility, reliability, internal and external validity to establish trustworthiness in this study is further enhanced through acknowledgment of member-checking. Member-checking is explored in the following section.

### **Member-checking**

Hermeneutic research seeks to explain the experience of an individual or group of individuals. In order to ensure the researcher has “got the story right,” it is imperative that the research data is validated. The participants must determine for themselves if the data accurately reflects their experience (Kvale & Brinkmann, 2009; van Manen, 1997).

Kvale and Brinkmann (2009) state that validation of a research project should not be reserved as “a separate stage of the interview inquiry,” but should

be ensured throughout the research project (p. 241). To this end, I asked participants to clarify responses throughout the interview process and asked clarifying questions when necessary. All participants were asked to add any other thoughts at the end of each interview. Interview transcripts were returned to participants (interview one) to review, and interview notes (follow-up interview) were also reviewed with participants. No participants requested any changes to the content of the interview transcripts. Additionally, I attempted to honour the voice, opinions and ideas expressed by the participant through thick and rich descriptions, and the use of quotations.

### **Ethics**

Hesse-Biber and Leavy (2006) state that the moral integrity of the researcher is inextricably linked to the trustworthiness of the research project. The discussion of ethics within research is important in determining what moral questions guide the research, how the researcher will conduct the research, and what responsibility the researcher has to the research participants (Hesse-Biber & Leavy).

Kvale and Brinkmann (2009) identify the following four issues as central to the discussion of ethical issues in research: 1) informed consent; 2) confidentiality; 3) consequences; and 4) role of the researcher. These issues were addressed in the consent form and information form presented to research participants prior to participation (see Appendix F and G).

**Informed consent**

Informed consent ensured the participant was aware of the overall purpose of the study, main features of the design, and any benefits or risks associated with participation in the study (Kvale & Brinkmann, 2009). This was addressed in the consent form and information sheet explaining the study. Due to the nature of this study, participants had full knowledge of the research question at the outset of the study. I used a funnel technique in which the subject material moves from broader questioning to more specific questioning. Participation in this study required participants to reflect on his/her practices. Therefore, identifying the research questions up-front best prepared participants to be in a position to answer the questions in a meaningful way (Kvale & Brinkmann).

**Confidentiality**

To protect confidentiality, research data identifying participants is not disclosed (Kvale & Brinkmann, 2009). One exception was Jane who requested she be named explicitly. Pseudonyms are used to protect the identity of the participants within the study (Kvale & Brinkmann, 2009).

**Consequences**

The term “consequences” refers to the ethical consideration of evaluating the potential risks involved in the study, and if these risks are outweighed by the importance of the knowledge gained (Kvale & Brinkmann, 2009). This study did not involve great risk to the participant. The nature of the research material did not suggest sensitive material might be disclosed.

**Role of the Researcher**

The role of the researcher demands that researchers practice ethical and morally responsible behaviour when conducting research (Kvale & Brinkmann, 2009). The results were checked and validated as fully as possible and the process of doing so remained transparent throughout the research (Kvale & Brinkmann, 2009). As outlined above, participants received copies of the transcribed interviews and research data to ensure accuracy.

**Storing of data**

The data collected during this research study is being stored and/or destroyed in accordance with the Brock Ethics review board guidelines and as previously outlined in this paper.

**Concluding Remarks**

Chapter Three presented the theoretical perspective, research methodology, research methods, and ethical considerations. By clearly explaining the research process, I intend to prepare the reader for understanding the research data including results. Chapter Four reports the findings from this research project.

## CHAPTER FOUR: RESULTS

This chapter will introduce the reader to the participants through narrative descriptions, examine how participants experienced stress related to increasing environmental adversity, and present the emergent themes related to environmental factors, internal competencies and the person/environment transactional process. Kumpfer's (1999) *Resilience Framework* was used to organize the findings as described in Chapter Three.

This chapter begins with a narrative description of the participants. I then highlight environmental factors as identified by the participants. These environmental factors act as either risk or protective factors. Internal competencies are then presented and are organized among Kumpfer's four categories: emotional, cognitive, spiritual, and social/behavioural. Emotional competencies include optimism and humour. Cognitive factors include: taking pride in one's work, having clear goals, ability to evaluate success, creating boundaries and "picking your battles," planning ability, on-going learning, life-stage, reflection, self-insight, and creativity. Spiritual competencies include: connection to the future, connection to the natural environment, determination and perseverance, purpose/meaning/fulfillment, faith/hope/optimism, "I am a part of something larger," environmental education is values-based, and sense of responsibility. Social/behavioural factors include action, role-modeling, and mentorship.

Finally, this chapter concludes with participants' reports of their experience with the person/environment transactional process. Through the



process of analysis the following themes emerged from the data to explain person/environment transactional process: negotiating political circumstances, job structure, importance of networks, collaboration, nature as healing, and association with positives.

### **Narrative Descriptions**

As I moved between interviews, formulated meanings and developed clusters of themes during the analysis phase, it was important that the unique experience of each individual was reflected in the results. To this end, the following section describes the context of each participant and reveals, in part, the essence of each individual's teaching philosophy. I selected quotes that I believe capture the uniqueness of each participant, and that will aid the reader in coming to know the individual participants.

#### **Dave**

Dave and I met through our work at an outdoor education organization in 2008. For one semester each year, Dave runs a four-credit integrated program. He has woven environmental education into courses throughout his 20 year career. However, six years ago he developed an environmental educational program unique to his school. Dave described the message of the program:

The program I created at the high school is called the [environmental education program] and so what I'm really trying to teach there is care, it's not something you really teach, it's something that you're going to inculcate, they're either going to get it or they're not, you can't say, "you will do this," but we're trying to, I'm trying to get them to understand that,

that it's their environment, so the education part is to have them take a role in that, to understand just how important this is to them and their future.

Dave acknowledged there are challenges related to administration, and in working with students. However, his commitment to working with youth to combat environmental challenges is unwavering. He stated:

If you want to make true change environmentally, change the people. Get people pumped up. The best thing I can do, I can go out and I can go to rallies myself, that's one person, or I could get a whole, you know, how many, how many people do teachers touch in one year? ... If you want to change the world, change the people that are going to be running the world, in a few years. And send them out there.

### **Henry**

Like Dave, Henry teaches environmental education at the high school level. Henry however, teaches at an outdoor centre run by the local school board. He has spent approximately 25 years as a teacher and has been involved at the outdoor centre for the last 19 years. Recently, his job has expanded to allow him to continue with the outdoor centre, but also act as an advisor assisting other schools in the school board to become more environmentally sustainable through the Eco-Schools (Eco-Schools, n.d.) program. Both Henry and the outdoor centre role model the potential that exists in environmental education. He remarked:

I got the solar wall installed on my outdoor ed[ucation] centre about 8 years ago ... on a day like today, the sun's shining on it, the centre's heating itself off of it. But I've developed the [outdoor] centre into a

demonstration sight for renewable energy. I've got a small turbine that I installed and it's charging two deep cycle batteries. I run small appliances, I've got the solar wall, I hold the student hands on projects, I've got a multi-function windmill, I have a solar-thermal experiment box, a parabolic-solar hotdog cooker, and a photovoltaic that runs a fan that cools us off if the sun energy makes us too warm.

Henry's school board is one of several that are involved in this province-wide program to foster ecological literacy and pro-environmental behaviour to develop environmentally responsible citizens (Eco-schools). Henry's dedication to supporting others in promoting pro-environmental behaviour is captured when he remarked:

When I finally realized – this might sound funny – but when I finally realized, I realized that I finally had a mandate to green the board, I started crying... yep, just finally someone has told me that it is alright, that I will be supported and encouraged to green the board. That's 44 schools, that's 12,000 students, that's 900 staff and a board office.

Henry's dedication to environmental concerns is evident through his conscientiousness as an educator and his role as environmental spokesperson within his board.

### **Janice and John**

Janice and John have been living and running John's family farm for ten years. Although neither claim the 6<sup>th</sup> generation farm to be completely sustainable, improvements and efficiencies for sustainability are an on going

process. Janice describes the missing link in their farm that is a closed-loop system as the “animal component.” Presently, manure is imported from a neighbouring farm as they learned early on that growing feed for, and tending to livestock while harvesting and planting crops was too much to manage.

The farm began as an experiment in self-sustained living, taking what Janice and John had learned through years of working with farmers in other countries and applying it to their own farm. John describes that what began as an experiment in economics has expanded into an educational hub. He said:

Sustainable agricultural farming here is something we’re constantly working towards, we’re trying to work towards, so we welcome, I think, a whole range of people, coming in to, to talk to, and that would include the clients that we have, the uh young children who maybe with a school group or with [visiting organization], or other farmers that may be coming in too. Um, so this is really, we’re constantly exploring and trying to read, trying to understand better issues on environmental and discussing these with a whole range of actors.

The farm hosts a number of groups every year that wish to learn more about biodiversity and sustainable farming. John and Janice recently joined an internship program in conjunction with a national farming program that encourages a hands-on approach to fostering young farmers. John described an additional direction the farm is headed:

Well, we have a whole lot of plans and certainly one is to, start again, the “field to fork” cooking classes... people come in with chefs to understand

the best ways and the exciting ways of preparing local foods. So this is going to be another kind of education and we, either families or couples, and to participate with the chef in learning how to cook these things.

I first met John and Janice when I visited the farm with a youth asset-building group and later with my class of high school students. Janice worked closely with our students and our diverse student body was quickly captivated by her enthusiasm for the subject. When I asked how their farm is different from others, she responded:

The other thing we do differently from other farms is we sell everything from the farm gate... And the big thing is that they are being educated. I mean the amount of educational impact that this farm has on people is huge. Because there are kids that don't know where a carrot comes from, there are kids that don't know how broccoli is grown, or potatoes is underground or whatever, so there is that big difference...Nobody leaves the farm without thinking. Even if they come here for some crazy reason and I have a discussion with them. They leave the farm thinking.

The impact of John and Janice's farm is far-reaching. They have recently begun a conversation with a nearby college program to further promote young people engaging in farming.

### **Rachel**

Rachel is an engaged community member whose commitment to environmental education has permeated many of her work positions. She and I first met in university and have remained close friends ever since. Over the last 10

years she has worked to re-instate the local outdoor centre in her community, and has worked with community organizations to promote outdoor and environmental education within and external to the school system.

Rachel has worked at various outdoor and environmental education centres in the province, and with several government organizations. At the time of this study, Rachel was working as a certified teacher in the local high school, and was still connected to a local organization focused on getting kids outside and active. She described her experiences working in environmental education in her community:

[My] being fortunate enough to have a dynamic mix of programming that I can get involved in this community. ... through the Ministry of Health promotions, ... half day, full day, and overnight courses, from kindergarten to grade 12 ... being able to incorporate it as, like, “the special environmental programmer person” who goes down to the day camp in the summer,... to teaching in a native studies class... programming elders to talk about the significance of, of um, close connection to the land, and with a focus on plants and their traditional uses. And so such a broad range that that’s just so exciting and novel too,... I don’t think most people have the setting, the exposure or opportunity to have such a dynamic, kind of, kind of broad scope of things to apply in a short time.

When asked to describe her philosophy of teaching environmental education, Rachel remarked:

So I think we generally try to, well in the programs I've developed up here anyways, is just make that initial relevance. So get the kids exploring, and then get the kids thinking about how and why these spaces are important to the whole entire community, not just the human community.

She described how she approaches teaching environmental education to her students by saying:

I just feel that if any issue is too, too huge, you've got to start with baby steps, and you've got to think locally, ... I just think you've got to bring it home, you've got to bring it down locally ... I just feel like we have to encourage them to get out there and really, really, like those Richard Louv [Louv, 2005] books, just really get them outside first.

Rachel continues to create a dynamic teaching environment for herself. She appreciates the geographical location of her community and the access to nature it provides. She believes every opportunity is an opportunity for environmental education, and she weaves this into the majority of her work experiences.

### **Ralph**

Ralph's career in environmental education began through the art of natural history interpretation - a skill he incorporates into his work whenever possible. He worked as an environmental education program coordinator for six years and then briefly with a conservation centre. His work in western Canada, the United States and Ontario helped prepare him for his current career with the Ontario government.

The political nature of work within the provincial government has meant considerable job constraints for Ralph. This is coupled by the fact that Ralph holds one of few positions that includes an environmental education focus. Ralph has experienced several transitions between governments, and changes in government have impacted his mandate. Despite the political climate, Ralph has developed ways for delivering programs in which he believes, albeit not to the extent he would like. He explained this when he said:

So I just stayed, and did what I could and well I was doing shows and stuff, I would, at the [family educational program], I convinced them to develop a [specific] education program ... and I packed that with as much environmental education as I could possibly, could so there was this giant manual on [the program] (laughing). Most of it was, you know, environmental stuff.... So I tried to do that wherever I could and I was fortunate to have some managers who let me do it.

When describing his approach to environmental education, he compared his field-based interpretive hike to a more formal presentation:

I've got a hike now that I'm pretty happy with. Because I can talk, because a) I can get people out into it, which is always better when they're out there, and I can, I can actually do interpretation, because that's the type of hike it is ... and talk on a more general, more general sense to biodiversity loss and what the problems are, but when I'm doing my power-point presentation, (sighs), you also have to really try to convince people that it's legitimate, and when you do, by the time you get done with all the



threats and everything else, oh yeah and then there's climate change, and then we talk about biodiversity and climate change, which is kinda overwhelming...

Ralph recognized that to engage learners, he cannot overwhelm them with negative information. He also described the multitude of projects that started out small, and grew into something larger. Allowing these projects to grow through partnerships has helped Ralph sustain himself despite the constraints he experienced in the workplace.

Ralph also described how he has managed to circumvent some of his workplace challenges. He commented:

Because we have a communications branch that is suffocating in terms of trying to get things out under the [government organization] brand, information, programs, whatever, the approvals and everything is just ridiculous. So I do everything through [associated organization], because [associated organization] does everything very quickly...

### **Jane**

Jane, who has chosen not to use a pseudonym, is the founder of *Garden Jane*, an urban community gardening program developed to connect people with gardening. She described how she came to focus on gardening as her educational slant by saying:

So I (pause) came across the belief that education was uh, the answer [Laughs], the big answer, through my undergraduate studies... and I shopped through a bunch of issues: from forestry to hazardous waste, food

to water, and found that food was the most attractive vector into talking about all the environmental issues that were out there. It was just that everybody eats...

Jane worked with Food Share before taking a position running children's gardening programs. She has been running Garden Jane ever since, and has developed a host of educational workshops and resources. When asked about her decision to engage in environmental education, Jane described it as her calling. She remarked:

Education was one of the options...it felt very strong for me. But not conventional education, um, because it was very much not my pull, it was a pull to be with people, doing things practically, now. I couldn't wait. I didn't want to be a grade three teacher and drop it into the curriculum. I needed to just be doing it ... all the time. So I mean, it's a question, it's my calling.

When asked "what keeps her going?" Jane responded:

Hmmm. [Pause]. Well, I like it. [Laughs]. It feeds me, it fills me, I mean, I feel good when I do this work. [Clears throat]. I could waitress. I could, you know, I could do all sorts of things I suppose, I could work for a big company, I could work for an institution, I could have a more secure job than the one I've created for myself, but I love what I do. Everyday. I mean I just, I love seeing kids' faces light up when they learn how to make a pickle, you know? It just makes me, brings me, total joy. How can I turn away from being joyful?

Jane emphasizes the fulfillment she gets from doing environmental education. For her, the rewards associated with “seeing kids’ faces light up” is greater than job security, more money, or less job-related worry. Jane shares this passion with co-workers and participants.

This introduction to the participants is intended to give the reader a greater sense of the individuals who participated in this project. Through better understanding the educators themselves, it is possible to better understand their experiences of resilience. Each participant brings a wealth of knowledge to this study as well as unique experiences. Despite the uniqueness of each participant’s context, all are connected in their commitment to environmental change. The following section reveals more about the educators as a whole, and presents how the participants experience stress as related to increasing environmental adversity.

### **The Experience of Stress: Increasing Environmental Adversity**

This section captures the experience of participants in the face of increasing environmental adversity. Environmental adversity represents the “stress” or “challenge” against which the participants demonstrate resilience. The following explores how participants described their experience of increasing environmental adversity.

Rachel described a moment at a conference when, in an attempt to learn about issues affecting the environment, she experienced a negative psychological response. She said:

... something that I didn’t really know too much about, hadn’t thought too much about, was nuclear energy, and I went to a thing specifically on

that,...I went away pretty depressed ... it's absolutely, probably the most scariest, dangerous thing I've ever heard of.

Both Rachel and Ralph expressed how environmental issues can at times feel overwhelming. Rachel was impacted by the enormity of environmental issues and remarked:

If you start thinking about the bigger broader picture, about how scary and huge, and, like, massive all of these problems are that are facing, like, climate change even, you know, it's just so huge!

Similarly, Ralph explained the content of his educational presentations: "we talk about biodiversity and climate change. Which is kinda overwhelming."

All participants reported considerable knowledge on issues concerning the environment. Henry explained that despite his intellectual knowledge, hearing confirmation of his concerns was sometimes emotional. He said:

If I hear a government announcement, like through CBC radio, about something that might, that might be discouraging, it's not surprising, but hearing it confirmed by scientific sources, that's a bit hard to take... there have been times when I have been really discouraged.

Both Janice and John expressed frustration at the global inequalities occurring as a result of increasing environmental adversity. Having traveled to several countries to work with local farmers, John and Janice have an understanding of the impact increasing environmental adversity has on these farmers. John described this understanding and his frustration. He remarked:

... the increased discrepancy, the numbers of chronically poor, malnourished are increasing, and why that should be happening?....There's all the signs of major changes, major revolution, or major disturbances or civil strife, or whatever, and you can get very stressed thinking about that. And we're just walking into it.

Similarly, Janice experienced stress related to her understanding of global implications of increasing environmental adversity. She said:

On the world scale, of course, it stresses me out. It distress me a lot that there's people out there that are becoming environmental refugees, some, and all because of greed, and all because of global warming, and all because of what big corporations are doing, and these big governments are doing nothing about.

All participants described their experience of psychological stress related to increasing environmental adversity. Janice captured her distaste for the lack of political involvement on the part of most people in society. She believes government and business should be taking appropriate action based on increasing environmental adversity facing humans. Jane similarly expressed how her concerns for the environment are compounded by the lack of appropriate response from government and politicians. Jane stated that lack of movement creates frustration for her. She said, "things that bring me the most despair are those moments of institutional, um, weakness, and lack of integration, lack of integrated thought, and lack of connecting really obvious dots, and the lack of energy too."

Henry described how one can feel discouraged with increasing environmental adversity. He explained that such feelings are compounded with additional environmental risk factors by saying, “We’ve all been in a downwards spiral where two or three negative things happen all in a row, you feel isolated and kind of unsupported. You know, so you can get quite discouraged I suppose.”

Increasing environmental adversity acted as a stress, and was the shared experience through which participants demonstrated resilience. Participants modified one’s environment using internal competencies in order to experience resilience. The environmental factors that protected the individual, or acted as risk factors are described below.

### **Environmental Factors**

Participant responses recognize environmental factors as including things such as family, friends, co-workers, or the work environment. These factors, depending on the context, can be protective or risk factors. Outcomes are a result of complex and dynamic interactions between the person, environment and stressor. The following explores the risk factors identified by the participants in this study.

### **Risk Factors**

Participants mentioned many risk factors associated with their work as environmental educators. Participants described themes related to workplace constraints, and governmental or political challenges outside of the workplace. According to one participant, students who seemed disengaged from the curriculum material and displayed challenging behaviours, acted as a risk factor.

Given the diversity of work environments, each participant differed in the degree to which they were capable of weaving their environmental beliefs into their work. One participant described a challenging time within his work environment as:

... the [Conservative] government came in and slammed the door on a whole bunch of stuff, including education in the [government organization], it was deemed to not be “core business.” So I was shunted around here and there and everywhere, doing things that had very little to do with environmental education. Um, I did a, I sort of talked my way into a few things that still allowed me to do some program development work, which was what I really wanted to do.

Another participant offers an alternative approach for dealing with work place constraints such as those described above when he remarked:

I worked in [municipal government] for a long time. And I still do work with them. But I now work with them as an advisor, right. As a consultant, or as, you know, coming in and out, and it’s much, much more effective.

Although all participants are committed environmental educators, the degree to which each work environment facilitated environmental education differed. I selected the above quotations to highlight for the reader the breadth of workplace constraints experienced by research participants, and to emphasize that each participant negotiated his/her internal competencies and environmental factors differently in order to achieve resilience.

Participants who worked within an organizational system reported work place constraints that acted as risk factors. Such factors included unsupportive directors/supervisors, lack of funding, and feelings of isolation. Jane, Janice and John, who work outside of an organized system, reported that risk factors existed mainly in the lack of general support they experienced. They identified things such as the lack of government policy supporting environmental or environmental education initiatives, as well as the fluctuation of support for environmental programs as a result of a strained economy.

### **Protective factors**

All participants described components that acted as protective factors. Overwhelmingly, all participants described the comfort and reassurance gained from connecting with like-minded individuals. Participants achieved this through conferences, workshops, connecting with like-minded organizations in the community, and through reading the work of like-minded individuals. Ralph says, “It gives you some hope too. Just that there are other people out there.”

Family was noted as providing strength in difficult times, as well as support from life partners and friends. Four participants noted that co-workers, administrators, school trustees, and supervisors could be sources of support. Additionally, Dave mentioned that supportive parents connected to his program acted as a protective factor. Interestingly, as noted above, many of these same people can represent risk factors. It appeared that the difference between a risk and protective factor for these environmental educators hinged on the attitude of the person filling the role.



Beyond the work environment, it appeared the location of work place acted as a protective factor for some participants. Rachel described the location of her community, a small town in Northwestern Ontario, as influencing her resilience. Rachel described such things as the geographical location, openness to collaboration, and access to natural spaces as being important protective factors present in her community that were tied to the location.

With the exception of John, Janice and Jane, who work outside of the school system, all participants mentioned the impact of *Shaping Our Schools, Shaping Our Future* (Bondar et al., 2007). This document, as described in Chapter Two, is a call for increased environmental and outdoor education in the Ontario school system. Some participants mentioned disappointment in the lack of specifics provided in the document (i.e., *how* an increase in environmental education will occur). However, all agreed the document was a step in the right direction and provided support for what each is doing by validating environmental education.

The abovementioned environmental factors identified by the participants represent risk and protective factors that can influence one's resilience. Environmental educators also use internal competencies to mediate environmental factors. Internal competencies are explored below.

### **Internal Competencies**

A multitude of internal competencies have been identified in resilience research. Using *The Resilience Framework*, these competencies have been organized into the following five categories: emotional, cognitive, spiritual,

physical and social/behavioural. However, the category of physical competencies did not emerge from the interview data. Possible explanations for this are explored in Chapter Five.

### **Emotional Competency**

Emotional competency recognizes characteristics in an individual such as happiness and humour (Kumpfer, 1999). All participants mentioned they avoid negativity and strive to work in positive environments. However, an explicit discussion of emotions did not emerge in most interviews.

Henry was the only participant that acknowledged that humour played a role in his resilience. He described it as important to look for the humour in situations to prevent becoming discouraged. He also stated that his network of like-minded people help him to see the humour when he was not capable.

### **Cognitive competency**

The themes that emerged among environmental educators are as follows: clear goals and ability to evaluate success, taking pride in one's work, creating boundaries and "picking your battles," planning ability, ongoing learning, life-stage, self-insight, reflection, creativity, long-term vision and objective view of the earth.

**Clear goals and ability to evaluate success.** Repeatedly, participants revealed their ability to set goals, and evaluate the success of these goals. In some cases, goal-setting was intentional and deliberate such as with John, Janice and Jane. These three participants revealed clearly established goals that helped guide their day-to-day work. In other cases, goals were broad and reflected grander

notions of changing behaviour of those engaged in the programs being offered. Regardless of differences, all participants were realistic in what they hoped to achieve. For example, Ralph stated that if one believes they are going to change the world, they are going to experience frustration and potentially feel worn out. Rather, it is the little victories that help create change, and often grow into larger successes.

Jane was clear on her objectives for her program. She described goals such as “connecting students with nature,” and “guiding people to work with nature in creating healthy gardens.” As with many of the participants, Jane’s objectives were not always tangible, and not always easily measured. For instance, she described a goal within her organization was to ensure the greatest number of people could feel a sense of accomplishment and ownership over successes. To accomplish this, Jane attached as many names as possible to resources published by *Garden Jane*. Jane also acknowledged the importance of formal measurement tools for success such as the number of people who participate in programs. Although she often intuitively “sensed” the success of her programs, quantitative measures were often necessary for procuring funding.

Henry also used formal and informal measurements of success. For instance, he formally measured success through the number of presentations he gives, the number of schools that join his program, and monetarily through green-savings opportunities. However, he also described informal measurements that come from perceiving the shift in school culture as a result of participating in the Eco-School program, or the energy (the enthusiasm and support) his programs

received from schools and teachers. He stated that there was no tool to measure all the success, and that sometimes it was “just felt.” He remarked:

If any of the improvement is measurable in any way, and I would take improvement as measurable even like not data, not hard data management, although that’s good ...the informal measurement, so I can walk into a school and see it’s different, I can see the posters on environmental stuff on the walls, I can see a chart with a thermometer, something they’re doing environmentally, I can see their plaque with their gold award in the front hall, I can see photographs or displays, I can see their recycling system, .... It’s a whole, it’s a cultural shift in the school community – that’s the custodian, the parents, the teachers, the students, the principal ...

Dave was similar in his description of what constitutes success. He discussed how “breaking through” to his students was one of his greatest indicators of success. Dave described “breaking through” as moments when students who do not normally engage in class material begin to ask questions and form opinions. Any noticeable change in his students’ behaviour, such as bringing a reusable water bottle to class, or picking up litter when no one is watching communicated to Dave the impact his program was having.

John and Janice had more concrete measurements for determining their success. John stated that it was quite simple to look at the economics of the situation to determine if they have been successful. For instance, they contracted their corn crop and expanded their raspberry fields in response to their customers’

buying habits. Successfully growing crops and the successful sale of crops is an easy measurement for establishing success.

Janice explained that when the farm was first being established, they set a goal to work for five years and then re-evaluate. After five years, Janice and John were surprised to find that the farm had exceeded their initial expectations. Janice believed their ability to set goals and continue to work towards these goals was in part why they have experienced success. John, Janice, and Jane mentioned that they also re-assessed and re-evaluated goals on an on going basis. As Ralph indicated, being adaptable, and adapting one's goals is as important as setting goals in the first place.

**Take pride in one's work.** A commonality among all research participants was an ability to recognize success, and to take pride in those successes. John and Janice took pride in the continued success of their farm's products, and the increased organic matter they have nurtured on the land. For Ralph, pride resulted from establishing successful programs that were meaningful for the users. Dave recognized that of all the students he works with, very few will change their behaviour permanently. He takes pride, however, in the few students who do embrace a more environmentally conscious lifestyle.

Jane shared a unique nature metaphor for approaching success. She explained that nature produces seeds that fall and fail constantly. When she embarks on new projects, she recognizes that many will fail for every few that succeed. Jane takes pride and encourages her work team to celebrate their successes, and not to be afraid of failure as failure is natural.

**Creating boundaries and “picking your battles.”** Common amongst participants was an ability to create clear boundaries, and “pick battles” that were important to them. They recognized that it was not feasible to fight every fight, and therefore were selective in issues they chose to address.

In terms of setting boundaries, Ralph recommended, “Don’t make it all consuming because if you do you’re in trouble.” He continued, “... we canoe camp you know so we’re out there, we’re in the out of doors, it’s where we like to be, but it’s not connected to work.” Ralph captures the importance of creating boundaries between his professional and personal life.

In creating boundaries, Ralph stated that politics often helped guide his decisions. When his livelihood was threatened by a shift in provincial government, he made a point of not doing any work at home. The platform of the Conservative party represented a threat to environmental education, and to avoid being consumed by work, Ralph indicated he set clear boundaries between his work and personal time.

As the only environmental position within his school board, Henry had many green initiatives cross his desk on a regular basis. He had to continually assess what he could reasonably manage. When possible, he directed projects to others, but sometimes he simply had to say “no.” Although it was extremely difficult for Henry to turn down opportunities to engage in environmental projects, he was able to realistically assess his own capabilities and prevent “dividing himself too thin.”

For Rachel, “setting boundaries” meant choosing an issue she was passionate about and engaging in it fully. She recognized that it was not possible for her to take on every environmental issue that exists. She said:

I think that is one of the most challenging things, like, “choose your struggle,” “choose your fight.” Like, it’s not humanly possible to stay totally active and um, happy and fulfilled and be involved in 10 different fights. I think that’s going to, at least half or more than half of your fights are going to be weak, and that’s not going to give you a really good sense of satisfaction in your life, so you’ve got to choose 1 or 2 fights.

Rachel indicated she had a clear idea of what she can realistically manage.

Dave recognized the demands of his work. In order to continue long-term with the environmental education program, Dave has structured his teaching schedule appropriately. Every two years, Dave takes a semester off in order to recharge and reignite his passion for environmental education. Dave stated that the students are “tough” and so he needs to take a break in order to re-charge. During his semester off from the high school, Dave worked with other environmental education programs where he further developed his skill and engaged his passion for environmental education.

In a similar way, John and Janice described their desire to work in the larger farm community when they first began. They wanted to help promote sustainable farming in the local farming community. They soon realized the demands of their own farm would not allow for the level of engagement they had

originally intended, and that it was unrealistic to believe they could sustain their initial level of involvement.

Jane recognized her inclination to take on more than was realistic. She indicated she has come to develop techniques for creating boundaries for herself. She stated that she often says to herself, ““okay Jane, what would I do?’ Okay, cut it in half....Don’t burn myself out.” Jane used this technique to create boundaries. Creating boundaries and “picking one’s battles” contributed to these educators experience of resilience.

**Planning ability.** Planning ability was a strong theme that emerged for many of the participants. Henry revealed his ability to plan through several examples including when he learned that his environmental education position was going to be cut. Due to incredible community support, the position was saved. However, in the meantime Henry had already conceptualized moving into a grade 7/8 classroom in which he could create an integrated curriculum focused on green education. His planning skills were also evident in his daily organization of his time:

So I block out, maybe a couple of days, every Monday. So I block off every Monday – because you can’t do trips the first day back after a weekend so that works out fine. That’s my admin[istration] day, my paperwork, phone calls, and Eco-Schools day, and all my Eco-School meetings tend to be there. But I can juggle them around.

John and Janice demonstrated their ability to plan through the detailed and organized business plans that help them manage the day-to-day farm operations.



John also reflected on their ability to adapt their plans: “It’s interesting because when I look at our initial business plan ... I look at how different it is from what we’re doing.” As mentioned previously, John and Janice had intended to keep livestock on their farm. When they realized the enormity of managing livestock and the vegetable component of the farm, they adjusted their plan.

John and Janice provided an excellent example of on going planning. John described their goal of starting a “field to fork” program in which families or couples would take part in a cooking class. The cooking classes would focus on preparing produce from the farm field; participants could pick the produce, cook it, and enjoy a local healthy meal.

John and Janice revealed their long-term and short-term planning skills. The business plan, and on going planning reflect their ability to make well thought out decisions. John also described the seasonal organization that comes with running a farm. He stated:

And the other thing I talk about a lot is the management has to be very, very precise. I mean I always talked about farming as being a series of windows. And the windows open and the windows close, partly because it’s so geared to the weather, to the climate, to the seasons.

Jane’s planning skills were revealed when she discussed the thoughtful and precise nature by which she decides to engage in projects. Jane described the frustration she experienced when working with groups that were either unmotivated, or not invested in the project. Before Jane enters into a collaborative project, she carefully considers participating. She said:

I ask more questions now – like, I’m more knowledgeable to the sense of I might just join a group of people and everyone says they have energy but so what. Now I want to know is, I might actually take the time to have a conversation with each person in the room, and understand their true energy level, what motivates them, what their connections are to the people in the room, and whether they feel like they really want to participate in what’s happening...and so I might take a little bit more time to understand the situation, and the potential of the situation.

Ralph’s ability to plan was reflected in his skill working around constraints. For example, he used affiliated organizations to quickly and effectively release environmental education resources that would otherwise be slowed by bureaucratic constraints. Ralph’s planning means a greater number of resources are distributed in a shorter amount of time.

**On going learning.** All participants described projects, conferences, and workshops with which they were engaged to continue expanding their understanding of the environment. Rachel indicated she sought out new knowledge, such as learning about nuclear energy, when attending conferences.

Jane emphasized that learning and honing one’s craft is never done; she recognized that as an educator one is always learning. She also noted the importance of staying critically engaged in environmental issues beyond that related directly to gardening, one of her main interests. When asked what advice she would pass on, she stated, “Practice, practice, practice. It doesn’t mean that

you just have one skill that you've just gotten and it's done. It means you've got to practice what you've done."

Jane described how learning along with her participants was an impactful experience. For example, she described learning alongside her participants as they both discover new ideas about a concept in gardening called dousing. She said:

Frankly, it's totally experimental on my part – and I say that to people – I'm really learning, I'm really excited about this direction, it feels really attractive to me and people are really attracted to doing it. And you know, we have a conversation about it and we give ourselves permission to explore in this direction. Because if we don't have this conversation, who has it? It gets lost. It isn't had. So let's have the conversation and see what happens.

Similarly, John and Janice described how they continue to learn, and how learning expands the possibilities of the farm. Janice spoke of learning from different cultures, and different farming approaches and how they try and apply this knowledge to their farm. Janice also described how they are continually trying to evaluate and respond to the needs of society, so the programs they deliver are most relevant. She explained that in the future they hope to include educational opportunities on traditional knowledge related to food production and preparation.

Dave reported using a unique approach to on going learning. To prevent "burn-out," Dave indicated he takes one semester off every two years. Dave used this time off to work with other outdoor and environmental education

organizations where he can further his professional skills. This on going learning allowed him to incorporate new ideas into his own program and re-inspired his passion for environmental education. Six environmental educators in this study demonstrated that on going learning is important to their resilience.

**Life Stage.** Several participants acknowledged that life stage influenced their career actions and choices. Given the political challenges in his job, Ralph contemplated what he might have done had he not felt the responsibility of parenthood. He also attributed the flexibility associated with younger age as affording different environmental education employment opportunities than those compatible with parenthood.

Likewise, Dave structured his teaching responsibilities in such a way that he could offer more support at home when his children were young. Henry described the enjoyment and impact of the summer environmental education program offered through his school board. The summer program included a multi-week canoe trip that separated Henry from his family. As his children grew, Henry chose spending summers with his kids over teaching the summer program.

Ralph related how his work was currently impacted by life stage. As he nears retirement, Ralph noted that he was more likely to “push for things” than earlier on in his career. He stated, “That’s why they always want to kick the old guys out, because they can’t control us anymore.” This comment reveals the significance of life stage on the actions and choices of some environmental educators.

**Self-Awareness.** Self-awareness is defined as “asking penetrating questions of oneself and subsequently providing honest answers” (Kumpfer, 1999, p. 203), and contributes to an individual’s resilience. Each of the participants interviewed for this study had a degree of self-awareness that they then applied to their practice. Self-awareness was used by these educators in decision-making, in confronting challenges, and in maintaining emotional health.

Jane described a high degree of self-insight. She indicated she is acutely aware of her strengths, and puts these strengths to use in her work. As noted earlier, she is aware of tasks she finds challenging, and is quick to complete them first thing in the day. Jane recognized that a part of her success is to balance mind, body and spirit. To this end, she checks in with herself on an on going basis and has developed tools for times when she feels out of balance. She admitted, however, that she has learned to create balance through years of being over worked.

Like Jane, Rachel seeks to maintain a balance in her life. Rachel revealed the value she places on fulfillment and satisfaction, and demonstrated self-awareness in setting boundaries for herself. She remarked:

It’s not humanly possible to stay totally active and um, happy and fulfilled and be involved in 10 different fights...I don’t know that it’s possible for me anyways, to take on more than like one, or max of two ... more than two issues at a time are too much for my brain, and hard to handle.

Similarly, Dave acknowledged the strain of his work and has been proactive in opting to take one semester off every two years. The self-awareness

demonstrated by these educators helps them create boundaries and accurately self-assess. Self-awareness was identified as significantly contributing to resilience in four of these environmental educators.

**Reflection.** Reflection is the ability to learn retrospectively from experiences. Henry, John, Janice and Jane revealed their practice of reflecting on their experiences. John and Janice spoke of reflecting on the successes and weaknesses of the season. They described how their business plan changed to reflect what they learned each year.

Throughout the interview, Jane reflected on the lessons she learned early in her career that allowed her to continue, “I burned out earlier. I worked too hard. You know, from that drive I was talking about, that drive to do stuff.” She described how her practice has changed based on those earlier lessons, “I might take a little bit more time to understand the situation, and the potential of the situation.”

Reflection is closely tied to self-awareness. Often, participants used reflection to enhance self-awareness. Several environmental educators described reflection as being important to their experience of resilience. As Henry illustrates below, he reflects on his actions to ensure they are congruent with his beliefs. This helps him move through moments when he might otherwise feel “guilted into inactivity.” Henry explained,

The question is awareness for your decision-making, if you don’t have the awareness you could be behaving in a way that makes [environmental circumstances] worse..... There are times when I might make the wrong

environmental choice, but when you add it all up and look at all of your choices over the long term, by far it is 99.9% in favour of the environment, and the odd time you may break your rules, but I don't think you can let guilt freeze you into inactivity.

**Creativity.** Several participants reported that being creative in their work contributed to their resilience. For some of the educators, such as Ralph, creativity related to circumventing the constraints within his work place. For Rachel, creativity was displayed in how she integrates environmental education into various community programs. Henry used creative thinking to bring green alternatives into the school district and his outdoor education centre such as his “living wall,” and solar powered classroom.

Jane embraced creativity in initiating work projects, “We can then launch an idea, just a tester, just a floater, just a, try it out...” Jane also said that as an organization, *Garden Jane* runs a lot of pilot programs that allows them to be creative in what they design.

In sustainable agriculture, Janice stated there was a polarization. She and John reported taking a middle ground that creatively combines organic farming values with some traditional agriculture practices. Janice explained that their creative approach to farming meant they do not really fit in with most other farm operations.

**Long-term vision.** The majority of participants shared similar long-term visions for the health of the earth. Six of the participants had a background in science or environmental science. As Ralph pointed out, a scientific perspective

requires one to look objectively at a situation. The majority of the participants shared a similar long-term view of the earth recognizing that humans are not seeking to save “the planet,” but are seeking to save human life and prevent suffering. For example, Ralph stated:

I was training as a scientist, ... and you learn a degree of objectivity when you're, when you train in science, because you're supposed to be objective ... So I think there is some degree of that in me, so I can sort of detach myself from the situation and say okay “we're really screwing this up”.... I guess the other side of it, is ... we're not really trying to save the earth; we're trying to save ourselves. Because, worst case scenario the earth will heal itself in about 23 million years.... The earth will recover.

Four participants indicated that an objective view of the earth reveals that human populations are “in trouble.” However, understanding concepts such as ecological cycles, the rise and fall of populations, and carrying capacity provided scientific and objective means of explaining the challenges facing humans. John, for example said:

I don't think the earth is going to end, but I think it is going to be an extremely different place than we have now and I think that we, well this is probably the first generation that in many, many where our children say it is going to be tougher for them, then it was for us.

Rachel shared a similar sentiment and also acknowledged the uncertainty associated with the earth's capacity for change. She remarked:



I mean the most resilient kind of living entities, the biosphere of the earth has such the ability to bounce back, but where that line is drawn is really difficult to say.

### **Spiritual competency**

Spirituality can be described as faith or religious belief. However, it also encompasses perseverance, hopefulness, ability to bounce back, dreams, goals, purpose in life, and flexibility. The topic of “spirituality” emerged from two participants early in the interview. For these two individuals, their understanding of environmental education and spirituality were intertwined. Three other participants used concepts such as “faith” and “hope” in the descriptions of their experiences.

Five participants expressed a strong faith in the ability of humans, particularly youth, to make positive environmental change. However, Ralph questioned human potential and expressed concern over human’s ability to do what is necessary to launch ourselves onto a new environmental trajectory. Despite these sentiments, the majority of participants expressed hope for the future. When I asked Henry where his optimism came from he stated, “There’s a bit of a spiritual component.” The themes that emerged within the competency of spirituality are explored below.

**Connection to the future.** Four of the seven participants revealed their stake in the future health and well-being of the planet. Whether it is children or grandchildren, these environmental educators indicated a belief in the need to work toward change for the benefit of future generations. As Ralph explained,

I do have a family and there are going to be new members of it out there, and how do you mitigate as much as possible so that they have a, at least a minor chance of having a reasonable life?

Similarly, Dave stated, “I want it to be great for my kids in the future.” When asked what propelled him to care so much about the kind of world he would be leaving behind, John responded, “Well my children, that’s one of the big things.”

All participants expressed a strong connection to the future health and well-being of the planet. This connection stemmed from a desire to ensure a safe and healthy natural environment for future generations.

**Connection to the natural environment.** Unanimously, participants discussed the importance of connecting with the natural environment for one’s personal health and well-being. All participants described the necessity of prioritizing time in the natural environment. Ralph indicated he spends time outside in order to rejuvenate and appreciate the simple pleasure of being in nature. Rachel described spending time in nature as providing her with a sense of completeness - something she came to recognize at a young age. She said, “It was just kind of this inner piece [*sic*] in me that I just wasn’t complete if I didn’t have [nature] in my life, I just wouldn’t be complete.”

Henry described his job as connecting others with nature. He acknowledged the spiritual component of being in nature and believed part of his duty is to help his students recognize their connection to nature. He said:

... all these animals and plants, they’re all gifts, biodiversity, and we get our sustenance from that, but we’re so disconnected from there to here,

that we'll go to the store and we'll get our stuff, not knowing what is happening in between that. So my job is to bring us together so we sense more is happening there, and become more intimate with it. And intimacy, and intimacy with God's gift is something that I say, do and use...

Jane described the spiritual connection she observes in others as they spend time in the gardens:

...sometimes it's seeing the faces of people and seeing the toddler whose eyes light up because they've just made a connection, or the, you know, even a senior citizen who is just reminiscing about something because of the smell of something that they recognize. Or a blind kid who touches a plant for the first time, or a paraplegic kid who has a worm on his arm and they're just like loving it...

She continued, "I think it's a spiritual piece of work too. I mean I really, really don't think it's about the sphere of the mind and the action. I think it's something else as well..."

Dave simply described his connection to nature, "I love being in it,... I just love it." These environmental educators recognized the importance of nature in their lives. They make time to connect and spend time in natural spaces and enjoy sharing their passion with others.

**Purpose, meaning and fulfillment.** Several of the environmental educators expressed the sense of fulfillment their work provides. As Ralph described, "You're doing it because it's more than a job." When I asked Jane why

she continued in this work despite the challenges she experienced, she explained that it came from a deep sense of purpose and fulfillment. She said:

It feeds me, it fills me, I mean I feel good when I do this work....I'm fed by what I do,...this is the direction I want to go in,...I needed to be doing it...all the time,...it's my calling.

Dave, Jane, Henry, and Rachel all described that seeing "children's eyes light up" provides a sense of fulfillment. Sharing nature experiences with others was considered by these educators to be one of the greatest rewards of their programs.

**Faith, hope and optimism.** When speaking with participants, the idea of hope often emerged. Participants, despite their intellectual understanding of environmental challenges facing humanity and the knowledge that much needs to change, had a distinctly hopeful outlook. Although Ralph was very wary about the potential for a hopeful future, he felt inspired and hopeful when working with energetic young people entering the field. He was unsure, however, if the energy he witnessed would persist through their entire careers.

Many ideas of hope were rooted in youth and younger generations, representing the potential for change. Jane stated,

But where is the hope for me is, you know I look at children and I look at, uh, again the energy that individuals have, and how much they light up, over the learning's that they have, and I have a great deal of hope for humans.

Rachel, Dave, Henry all stated their hope for the future. However, Janice described her optimistic outlook as a survival technique. She stated:

I'm an inherent optimist - I refuse to look at things in a negative way, it is a waste of time, life is too short. And so if you're not an optimist, you're shooting yourself in the foot, you'll live a miserable life...and I think we should all be optimistic, if you're optimistic you're happier and the world is a better place.

Participants indicated the work of environmental educators can be an act of faith. As several participants described, the fruition of much of their work may not occur until participants leave the educators' programs. This sense of faith is expressed in Jane's statement: "I don't even think I've begun to see, the true results. There may be results of my work that later I'll get to see. I don't know." Dave also expressed his faith in human potential, "we're powerful, we're so smart...."

Jane and Dave both expressed the belief that there must be other people thinking like them. Dave's following quote reveals not only the idea of hope, but also a belief in being part of something larger:

My hope doesn't come from what other people are going to do, my hope comes from inside and I just know where I'm at. And there have to be tens of hundreds of millions of me, who really do care, and who will make a difference. Right?

The idea of being part of something larger is explored in greater detail below.

**I am a part of something larger.** John, Janice, Dave and Rachel all expressed the belief that they are part of a larger environmental movement. John and Janice described the growing momentum in sustainable farming. Particularly, they indicated seeing an increase in the number of young people becoming interested in farming. Dave believes that there are others working in education to promote thoughtful and environmentally responsible citizens while Rachel, Janice and Henry all shared their belief that each individual can make a difference. Overwhelmingly, participants acknowledged that there are others working for environmental change. The belief that one is not alone, but rather “part of something larger” contributes to many participants’ resilience.

**Sense of responsibility.** Four of the environmental educators in this research project expressed a great sense of responsibility for the environment. In speaking with John, Janice, Rachel and Henry, it was evident that their commitment to environmental education permeated their actions. These individuals indicated they see it as their responsibility to continue in environmental education, and found it difficult to imagine not working to promote environmental change. As Janice described:

Well I’m going to, I’m doing what I can, everyone else should do what they can,.... because I think every little droplet counts, every little drop counts, and I think the more drops you add to it, the bigger momentum.

Similarly, Henry described his philosophy towards teaching environmental education by saying:

Because if you didn't do [pro-environmental actions], what would you have? ....Would I be contributing to worsening the situation? Uh, would I advocate for ending the existence of humanity sooner – like some? To do the best you can, I think is a no-brainer.

When asked her perspective, Rachel described environmental education as a life-long commitment. She remarked:

So I think it's totally worth the daily battle, the weekly battle, you know the battle to keep fighting to change the education system to include more environmental education and more outdoor time. I think that that is priceless and we can't stop that battle, and you know and ultimately I feel like it's, um, like I definitely, definitely feel that each individual can make a small change.

John and Henry expressed thoughts on how they would continue their environmental work when they retired. Both looked on retirement as an opportunity to shift directions in their work focus, and to use their strengths as environmentally concerned citizens in a different capacity.

### **Social/Behavioural Competency**

Four distinct themes emerged related to social/behavioural competency. These themes reflect actions or behaviours used by participants to promote resilience and are titled: action, role-modeling/mentorship, “planting seeds,” “street smarts,” and “determination and perseverance.” Each category is explored in greater detail below.

**Action.** All of the participants described an orientation to action. That is, all participants actively engaged in creating change. Many described this as important to their over all well-being. Participants described how the actions of even small projects helped create an atmosphere of positivity and change, and that the feeling of positivity and knowledge of change helped in resilience.

When I asked why she chose to continue in environmental education, despite the challenges she had faced, Jane said, “I just couldn’t help myself. I just had to. I think – I was saying a minute ago - I’m pretty action oriented. I really felt like we needed to ‘do something.’” Similarly, when I asked Dave why he continued during challenging times he responded, “You’re either doing something or you’re not, and if you didn’t do something then you’re definitely passive.” The majority of participants echoed the notion that “taking action” is important to experiencing resilience.

**Role-modeling/mentorship.** Nearly all of the participants spoke of mentors they had early in their careers. Several participants have gone on to mentor others. The mentor/mentee relationship seemed to work reciprocally; mentors are inspired to mentor as they see the community of like-minded people grow, while mentees receive useful training by others in the field.

Rachel explained how mentors moved in and out of her life depending on the lessons she needed at the time:

I’d say [a mentor] was, you know, a person I was able to draw so much from, and learn so much from over a period of time and we’ve both probably moved on, and I know she’s still there doing the, fighting for the



good cause, but yeah, as of right now, not so much one individual but pieces of lots of folks.

Jane also spoke of her experience being mentored:

And I was really mentored by, by some pretty bright people that helped me [learn] how to negotiate those things so that I could be effective and use the momentum, use momentum and leverage as two tools that would really make a difference. So you have to know when to speak, and not just when, but there are ways to do it that make a huge difference and there are ways to do it where you immediately get told “no” and that’s the end of it.

The above quotations illustrate the impact mentors can have on mentees.

Moreover, several participants now mentor others. Dave spoke highly of the student-teachers he works with through pre-service teaching training. He maintains contact with many of these students after they have left his program, and says he appreciates seeing student teachers “go off and do things.” Dave stated that he draws energy from hearing about their successes.

Jane shared the advice she learned early on with her own staff and interns as she noted, “I was taught a few lessons up front, that - these are the things I pass onto my interns – of how one maneuvers in order to make strategic change in a big system.” She takes the role of mentoring seriously, and described working with staff to achieve goals:

When people ask me for some feedback usually, I try to work with them.

To me that’s a really important question, you know, “how do I move

forward?” It’s one of the most valuable questions anybody can ask really.

So I’m honoured when people come to me to want to talk about that.

Similarly, Henry appreciates the opportunity to share his knowledge and expertise with others. He often facilitates others through difficult problem-solving instances. He remarked:

I’m at the point now where I can say, “Well, have you taken a look at this, have you thought of this, who’s on your side? Do you know the politics of the school, the community? In your board, do you have a designate who does the facilities maintenance?” and there’s lots of ways of looking at it. Because this is my fourth year with Eco-Schools, I can help out with that.

Henry role models innovative problem solving, and helps to coach others in acquiring the same skills. As will be presented later, the notion of being able to strategically negotiate political situations is an important skill in the resilience of environmental educators. Henry is helping to nurture resilience in others by mentoring and role-modeling effective problem-solving skills.

**Planting seeds/nurturing the seeds.** The notion of “planting seeds” is one I borrowed from the participants. Several mentioned that they often “planted” ideas, and continually returned to these ideas to nurture their growth. Jane described how she is happy to try “a thousand ideas” knowing many will fail; if only a few succeed it is a source of pride. Jane provided a vivid description of this idea that she learned as a graduate student:

... apparently the way termites build nests is, they take bits of saliva and sand whatever, bits of debris, and they just drop them randomly... and

eventually two bits will stick together and from a bit of a beginning of a pile. ... then eventually what you see is a third piece will drop on top and you start to get like little bits of an arch forming or a cone or something, and then they organize around what worked so thousands of random actions, many of them don't stick. Then when they do stick, they work with that and they build their structures.

When talking to Ralph about his experience of success, he described:

In little things that you didn't think matter very much, or will amount to very much, suddenly take on a life of their own and, and become valued to somebody....When I started doing this, you know I was just trying to help the school out. And now it's grown into its own website and it's gonna attract a fair amount of user-ship.

“Planting seeds” illustrates the ingenuity, patience and persistence of these environmental educators.

**Street smarts.** Street smarts are social and behavioural skills used to achieve effective functioning within different environments. To illustrate this theme, Henry described how he works strategically to garner support for environmental education initiatives:

I usually get advice from somebody up top that I know, that I trust, that's supportive ... so I would contact that person and I would say, “Here's my situation. This is the issue. I would like it to move in the other direction. What do you suggest?”

Repeatedly, participants described using social and behavioural skills to accomplish goals in different environments. Four of these environmental educators attributed “street smarts” to their resilience as educators.

**Determination and perseverance.** Determination and perseverance are qualities that can be associated with one’s spirituality and faith. Belief in larger “things” allows movement towards larger goals. However, participants’ responses related to determination and perseverance were more reflective of social/behavioural competencies.

Dave, Janice, John and Jane all recognized the determination, perseverance, and persistence required for accomplishing their successes. When asked to provide advice for others embarking in the field of environmental education, Dave replied, “Don’t give up. There are going to be frustrations and if everybody gave up when you got frustrated, then it’s game over.”

When describing the launch of the Environmental Stewardship Program at his high school, Dave explained that it took years to get the program off the ground. He attributed the program’s eventual inception to his determination and persistence: “I was persistent, just, you know what, I don’t care what you say, I don’t believe that this shouldn’t happen, and I’m going to keep working until it does happen.” Similarly, when describing the challenges the farm faced in the first few years, John and Janice claim it was simply “hard work” that carried them through.

During our interview in Jane’s office, she drew my attention to a posting on her wall. She had written out the “Seven habits of highly effective people”

(Covey, 1989) and posted them in clear view of all who work in the office. When I asked Jane what it is that allowed her to experience such success, she replied:

Stick to it. I'm determined. Um... I think it actually boils down to emerging discipline. I won't claim to complete and total mastery of discipline yet, ... but I can see what it looks like. And sometimes I touch it in different ways. So things like, ohh, facing the day with energy each day. And doing what needs to be done, hard things. Things that aren't always pleasant – you know, do those things early in the day, so those basic time management things.

Similarly, Henry described the perseverance necessary to move projects forward, “you encourage it, you bring it up at meetings; it's on the agenda for the ninth time at our [program] meeting.” Common among participants was perseverance and determination.

The emotional, cognitive, spiritual, and social/behavioural competencies described above encompass the internal competencies of environmental educators. The internal competencies are skills described by environmental educators used to mediate environmental factors. Environmental factors are mediated through the transactional process. This process is explored below.

### **Person/Environment Transactional Process**

The person/environment transactional process describes how an individual negotiates environmental factors using internal competencies to promote resilience. Eight distinct themes emerged to explain how these environmental

educators negotiate resilience through the person/environment transactional process. These themes will be presented in the following section.

### **Negotiating political circumstances**

The idea of “negotiating political circumstances” appeared during my first in-depth interview and was a theme that carried through many of the following interviews. Educators used the words “circumvent,” “subversive” and “minimum resistance” to describe some of their actions related to politics.

**Subversive politics.** Ralph reported considerable constraints in his day-to-day work. As Ralph spoke, he began to uncover some of what appears to contribute to his resilience despite the challenges of the work place. Ralph described “circumvention” as a means to accomplish goals at work, “I try to subvert the system. Work around it whenever possible.”

One particular affiliated organization allowed Ralph to disseminate environmental education resources in a timely and effective manner; something he indicated can be difficult in a larger government organization. He described a strategic approach in seeking permission, and also described the importance of affiliated organizations.

Similarly, Henry described the approach used during a government administration that showed little support for environmental education. He stated that he and other environmentalists were subversive, and described themselves as an underground community. Although “environment” was removed from much of the curriculum, he would still include an environmental emphasis in the lessons he taught. Additionally, when parents accompanied classes to the outdoor centre,

he utilized opportunities to discuss challenges facing environmental education. These discussions educated and motivated parents to take action in supporting environmental education.

**Working as an “outlier.”** Jane explained how early in her career she worked in municipal politics and how she quickly became frustrated with the process. She was discouraged by the lack of action. She indicated the politics inherent in any government organization created slowness in the system. However, Jane was also disappointed by the lack of investment of some of her co-workers and instead decided to start her own organization. She describes herself as working as an “outlier.” As an “outlier,” Jane is able to create desirable change and action, and can still work with municipal organization. Working as an “outlier” was unique to Jane’s experience of resilience.

**Gentle politics.** Henry termed the thoughtfulness guiding many of his political actions in his job “gentle politics.” Jane and Ralph also described similar experiences. “Gentle politics” is a thoughtfulness that capitalizes on one’s interpersonal understanding of others, and the application of interpersonal skills in order to experience the greatest amount of success possible.

These educators reported effectively appealing to supporters and non-supporters to garner support for their ideas. Interpersonal understanding contributed to success and prevented alienation. This is reflected in how Henry described his approach to his work:

I’ve always made it an objective of mine, to move things in the direction I think they should go, with the least smoke and fire, and the least

resistance.... you have to pick your battles carefully, knowing the politics of that topic, and knowing the personalities involved.

Similarly, he described how he used gentle politics in appealing to project funders:

You try to couch it in terms they understand. They understand money. So if you can say, that this action, behaviour can save this many dollars, then you'll get more support on a dollars saving thing, and it's green at the same time, you're more likely to get that....you can push the projects through, knowing the personalities of what the politics of the situation is.

Like Henry, Jane described an approach similar to "gentle politics" as a key to success. She said:

So you have to know when to speak, and not just when, but there are ways to do it that make a huge difference and there are ways to do it where you immediately get told "no" and that's the end of it.... to use a gardening metaphor – you plant the seeds, you don't let them die, and you come back and you reap the harvest....I mean, you just make sure you give those seeds attention, you don't get in people's way, but you keep nurturing and growing them and eventually, they, you know, they come to fruition.

Jane attributed some of her wisdom to lessons she learned from others in the field. She described a conversation with a good friend in which he said, "If they're pulling the rope drop it. If people are struggling against you, then drop it."

Jane said she continues to use this advice. She avoids working against resistance, and actively avoids unsupportive environments. Like Henry and Ralph,



she succeeded at creating supportive environments with minimal resistance. In part, the ability to practice “gentle politics” stems from an understanding of one’s audience.

Henry described the importance of gauging one’s audience so as not to alienate himself. He said:

You’ve got to look at what you’ve got to lose by pushing it, I didn’t want, my personality or my program to be perceived as a “pain in the ass” or as overly assertive, uh, a “problem”.... So you can push your green philosophy so far ... When you share the space with other people you’ve got to find a balance.

When relocation of funds and funding cuts threatened Ralph’s work, he reported using gentle politics to ensure he continued working on meaningful projects. He noted, “I sort of talked my way into a few things that still allowed me to do some program development work, which was what I really wanted to do.”

As a designated environmental educator within his school board, Henry often coached others in how to facilitate change in their schools. He suggested people consider the question “Who’s on your side?” while considering the politics of the school and the greater community. Henry said he encourages educators to extend their thinking when it comes to considering resources. For example, he suggested looking to the facilities management designate for support in greening the school.

Henry indicated he carefully considers the politics of a situation before presenting environmental education initiatives. He described, in part, how he discovers where his supporters exist:

They either moved into [the position], or I discovered when I came into the position, who the supporters were. And as they rotate through their positions they retire, and or they get demoted, or they get posted, or they go away on long-term illness leave or whatever and they get replaced, I can quickly find out, knowing who the replacements were, what their history is. And I'll talk to someone who knows them and they'll tell me about them. So knowing the network fairly intimately, is a real advantage, it's a benefit, it's a useful resource knowing who they are, because then you know how to move projects or initiatives through the political gauntlet that's not the right word, slalom course, okay, it's better, and I'd do it in a canoe, rather than skis.

Similar to several other participants, Henry indicated his ability to practice "gentle politics" contributed to his resilience as an environmental educator.

"Subversive politics," "working as an outlier," and "gentle politics" were themes that emerged that describe how participants negotiate political circumstances. Participants reported that they encountered these factors predominantly in their work environment.

### **Job structure**

A quality shared among several of the environmental educators who participated in this project was that of structuring one's job or looking for jobs

containing a structure that allows for rejuvenation. For example, Rachel reflected on her career as an environmental educator and considered how work structure contributed to her resilience:

I've either done [environmental education] everyday of the week for some months, or done it a couple days a week for some years... it's not consistent so maybe a little bit more sustainable.... I think it helps when I'm not, it's not something that is encompassing my brain like 24/7...so I break it up with other things and then it can be, you know, easy to go back to...

As mentioned previously, Dave reported taking part in a facilitated program that allows teachers some flexibility in the structure of their teaching career. As a full-time teacher, Dave participated in the program by teaching for three semesters and taking the fourth semester off. Given the demands and intensity of the Environmental Stewardship Program, Dave purposefully built rejuvenation time into his teaching career.

Jane mentioned previously her decision to work as an "outlier." When Jane realized that working within a pre-existing organization did not promote resilience, she said she created her own organization that would. Structuring her job to include "working as an outlier," afforded Jane greater success in her job and has contributed to her resilience as an environmental educator.

### **The Importance of Networks**

Common to all of the participants was the importance of maintaining a network of like-minded people. Participants considered networks to exist in many

forms and to include a diverse range of individuals. They described these networks as inspiring, energizing, and creative. Henry provided the following advice for fellow environmental educators who are starting their careers:

I would keep your network active, of like-minded individuals, and that would really help, the biggest thing I often felt when I was discouraged was I felt alone.... So surround yourself, or at least have access to, on a relatively regular basis, at least once a month or something like that, this network of like-minded individuals who can help you not feel alone. I'd say that is a really big one.... So going to conferences, going to meetings, going to workshops, uh, involving yourself in the field with other projects, with similar minded groups – there's so much overlap with so many groups.... There's a lot of social justice groups whose mandate includes environmental activities, because we all share the environment. So it's a type of social justice to be an environmentalist, because we're all going to benefit from that.

Henry continued to describe the benefits of connecting with a network of like-minded individuals, and explained where networks could be found. He said:

Who you belong to, go to their conferences and boy, what a boost. You come away from there higher than a kite.... So going to those conferences is a big charge, a big charge. Or even going, just going to an Eco-Schools regional workshop, to see other teachers who are there because they're frustrated with their school, or principles or community and you know, they've got a ton of questions, like, "How do I get my school to move?"

.... Coming together and sharing that energy and that's an underrated thing, because you can't measure it.... So when you go into a room where everybody's keen, you come away charged, because you're all like thinkers, and you're all like feelers, and you all have that same sort of drive to improve the environmental situation and our knowledge, behaviour and awareness, so you come away charged.

Rachel reported being geographically isolated from many of her networks. However, she described how she stays connected to her network despite this isolation:

Definitely through OSEE (the Ontario Society of Environmental Educators) and just knowing, yeah I probably only get together with those folks once a year, but it's just nice knowing, being in communication via email, and knowing that there's a whole community out there, working towards this, and coming from, you know, a lot more challenging situations and environments than I am.

Similarly, Rachel described the positive benefits of staying connected to environmental education projects happening across the country and throughout North America. She said:

I think looking at all the, just looking at all the, not only individual projects and movements, but also those of like-groups forming. Like the fact that there is, like, um, Green Street and the um, environmental educators network, like the Ontario network, EEON and OSEE, there's the national one, and then there's a North American one. All these different

pockets of environmental, uh education organizations that exist out there, and these natural, these cities that you go to have these naturalists, and young naturalists programs, there's just, if you start looking, there really is quite a lot, and I just think it is really exciting when you start creating kind of a web between those groups and it just kind of builds up your hope that there is a possibility there to make some pretty exciting change, and there's change being made everyday, I think we just have to remember that.

Although Rachel was not directly connected to the projects she described above, she experienced a boost of energy and feelings of positivity simply in learning about projects through her network. Several participants shared this experience.

### **Collaboration**

A theme that became apparent among the environmental educators in this study was that of "collaboration." Jane, Ralph, John and Janice described collaboration as a way to connect with audiences they may not otherwise. They reported collaboration as a way to bring together diverse strengths in order to create positive environmental change.

Ralph described his success when collaborating with nearby schools in developing environmental education resources for classroom teachers:

It started out I was doing it for one school, and I sent it out to a handful of people and said, "You might be interested in these." And, and some more people got interested, and other people heard from other people, and by the end of the year there were probably 60 or so people in addition to the

school, that I was sending these things out to on a regular basis. And we did them three times a month.

Similarly, John and Janice worked collaboratively with a local college program to promote sustainable farming through cooperative learning opportunities. Jane worked collaboratively with other programs to present holistic approaches to her gardening programs. In partnering with a local yoga instructor, Jane reported she helped to deliver a mind/body/spirit program using gardening and yoga.

All the environmental educators in this study spoke of working collaboratively, whether with outside organizations, or with like-minded individuals who were part of the organization with which they worked. Dave spoke highly of his former teaching partner and the positive impact she had on students. Henry referred to his “teacher champions” who worked to implement the Eco-Schools program at individual schools. When representing local organizations, Rachel said she collaborated with schools and community programs to deliver environmental education programming to youth.

The environmental educators in the study indicated they worked collaboratively with community and school partners to deliver effective environmental education programs. These educators recognized the increased potential for creating environmental change when working with other like-minded individuals and organizations.

### **Nature as Healing**

All the environmental educators in this study spoke of their time spent in nature as rejuvenating and important for their overall health and well-being.

Participants mentioned nature as a spiritual competency, and within the person/environment transactional process. In discussing the environmental challenges facing humanity, several educators emphasized the importance of continuing to connect with nature. As Ralph described, it is important for him to spend time outdoors,

We canoe, we canoe camp you know so we're out there, we're in the out-of-doors it's where we like to be, but it's not connected to work. And I'm not thinking about all the problems that are going on out there, I'm just thinking about how nice it is to be out. There're still nice places out there, whether it's Killarney, or Algonquin or wherever you're going.... You know, you can get away, and deal with it in the way doesn't impact it very much and still gives you the pleasure of being there. And, that, that's certainly rewarding.

In combating feelings of despair, or frustration concerning environmental issues, Henry said:

Go for a walks sometimes. Take a hike in the woods, and reconnect with that peaceful, God given gift of natural, unspoiled, organic beauty. Um, that helps.... So, one way to get away with the doldrums is to connect with nature,



Similarly, Rachel described that in working for environmental change, one cannot forget to take time to enjoy the environment:

I just feel like, what do you have to live for in life, if you don't live for a positive outlook and enjoying what's there, ... like right now we still have this amazing world to enjoy and explore and let's get out there and play and do [time in the environment].

The environmental educators in this study spoke of accessing nature as a form of rejuvenation during challenging times.

### **Association with Positives**

A theme that emerged among all of the participants was "association with positives." This theme describes the decision of environmental educators to minimize experiences with people, projects or organizations that represented negativity or resistance, and represents a movement towards working with people, projects and organizations that represented positivity.

When Rachel was asked how she managed to remain positive despite all the negative environmental information she replied:

I think it's tuning in really, tuning into the news that you want to hear, and the media that you want that you can draw positive energy from, and the media that's going to keep you going and not the big huge titles and the mainstream media where types of things can bring you down, you've got to reach for what to, reach for whatever fight you want be a part of, and join that crowd and jump on board,

The theme associating with positives was prevalent in the responses of the participants throughout a majority of their interviews. Participants noted working collaboratively with like-minded partners, the decision to engage in a project, and choosing to create boundaries, as decisions in which they chose to “associate with positives.”

### **Concluding Remarks**

This purpose of this chapter was to introduce the reader to the participants, and present the results of the data. Themes emerged during in-depth interviews with seven environmental educators to explain their experience of resilience in the face of increasing environmental adversity. These themes explain the internal competencies including social/behavioural, spiritual, and cognitive competencies that emerged to mediate environmental factors. Environmental factors were categorized as either protective or risk factors and were mediated by internal competencies through the person-environment transactional process. The person-environment transactional process was explained through six emergent themes including: negotiating political circumstances, job structure, importance of networks, collaboration, nature as healing, and association with positives. The following chapter discusses the findings of this research project. Additionally, implications of the research, future research and limitations of the study are presented.

## CHAPTER FIVE: DISCUSSION

In this chapter, the findings of the study are discussed according to the research sub-questions and are presented in the context of the *Resilience Framework*. Implications of the findings, suggestions for future research, and limitations of the study are discussed.

### **How do Environmental Educators Experience Stress or Challenge?**

A criterion for participating in my study was that participants must have experienced a negative psychological response to increasing environmental adversity. I assumed increasing environmental adversity would be perceived as a cumulative stress that was compounded by other environmental factors in participants' lives. However, all participants described moments of acute stress related to increasing environmental adversity. It appeared environmental educators mitigate the stress of increasing environmental adversity through the resilience process.

Participants described this stress as overwhelming, discouraging, frustrating, and angering. This particular finding resonates with much of the eco-psychology literature that asserts that people can experience emotional trauma through acknowledging the challenges facing the natural environment (Windle, 1995). The emotions described by participants in this study (i.e., frustration, anger, grief, etc.) are consistent with feelings experienced in the process of connecting, or re-connecting with one's ecological self as described by Macy and Young Brown (1998). Emotions such as frustration and anger are characteristic of

the mourning process suggesting that these environmental educators have a connection with their ecological self and may be mourning the loss of, and/or injustices exerted upon, nature.

The environmental educators in this study reported they did not experience these emotions continually suggesting resilience. This suggests that participants were impacted by internal and environmental factors, and that aspects of the person/environment transactional process mediated the stress they experienced.

### **What Environmental and Internal Factors contribute to Resilience?**

Day and Gu (2009) suggest that commitment to the teaching profession, motivation, and believing one can positively influence the lives of students is determined by the resilience of the teacher. For teachers to experience long-term success as educators, resilience is imperative (Day & Gu, 2009). The factors that contribute to resilience of environmental educators are explored below.

#### **Environmental Factors**

Participants identified numerous environmental factors that acted as protective and risk factors. These factors, including bureaucratic constraints, student behaviour, government policies, employer behaviour, and co-worker behaviour, were found to impact the resilience of environmental educators. These factors have also been found in other studies to negatively impact the effectiveness and motivation of veteran teachers (Day & Gu, 2009).

Confronting risk factors in one's environment is a common occurrence according to participant reports from this study. Associating with positive adult role models is cited as one strategy used by resilient youth in confronting

challenges within the environment (Kumpfer, 1999). Similarly, it appears that participants from this study modify negative work environments to promote resilience such as associating with positive, like-minded individuals. The following explores participant reports from this study that help them with creating a work environment that helps to promote resilience.

**Work satisfaction.** Of considerable interest is the role work satisfaction plays in promoting resilience (Duffy & Lent, 2009). Work satisfaction is defined as “the extent to which people like or dislike their jobs, including the work conditions within which their jobs are embedded” (Duffy & Lent, 2009, p. 212). Those people who are satisfied with their work are often successful at transforming their work environment (Duffy & Lent, 2009).

Four participants reported that transforming the work environment contributed to their feelings of resilience. Despite experiencing frustrations and challenges, these participants conveyed a strong commitment to their work and experienced great satisfaction in teaching environmental education. They were incredibly passionate about their work and felt drawn to it as a profession. As Miller, Nickerson, Chafouleas, and Osborne (2008) stated, “individuals who perceive their work as a calling are more likely to experience professional satisfaction and fulfillment and to perceive their work as contributing to the greater good” (p. 689). Similarly, in his study of long-time civil rights activists, participants described their work as a calling (Beardslee, 1983, 1989). For participants who described their work as “a calling,” or as something that they

“just needed to do,” it is possible that they experience greater levels of professional satisfaction thereby contributing to resilience.

Duffy and Lent (2009) tested an integrated model of work satisfaction in educators. They found that positive affect and perceived organizational support were foremost in work satisfaction experienced by teachers. Participants in this study identified “perceived organizational support” as contributing to resilience. Although this concept did not emerge as an explicit theme, it was reflected in the themes of “association with positives,” “networking” and “street smarts.”

Similar to “person-environment fit,” these environmental educators used competencies to create a perceived organizational support. For instance, when Ralph was asked how he reacted to negative people he encountered in the workplace, he responded that he avoided them. Avoidance coping is often considered a negative strategy in dealing with stress (Skinner et al., 2003). However, avoidance coping can also describe the mediation of environmental risks to one’s benefit (Kumpfer, 1999). Some individuals in this study interacted and negotiated their work circumstance in a way that allowed them to perceive a degree of organizational support. This was true among participants who worked for an organization (e.g. government, school boards), but was not identified by participants who worked outside of organizations. It is possible that perception of support for those who did work with organizations contributed to their resilience. Factors such as environmental education as “a calling,” organizational support, and work environment, suggests there may be a relationship between work satisfaction and resilience in environmental educators.

**Emotional competency**

A self-reporting instrument was created that includes many of the components identified by participants as important aspects of resilience (Campbell-Sills et al., 2006). Included in the Connor-Davidson (2003) Resilience Scale are social support, spiritual faith, and an action-oriented approach to problem-solving. These aspects are among the internal competencies and environmental factors described by participants as promoting resilience. The following explores the meaning behind the emotional, cognitive, spiritual, and social/behavioural competencies described by environmental educators. Surprisingly, no themes emerged to describe physical competency.

Day and Gu (2009) stated that through the years, experienced educators build “psychological, intellectual, social and professional resources which charge them with the emotional strengths necessary to manage negative influences which they may experience” (p. 448). Kumpfer (1999) describes emotional competence (emotional strength) as including happiness, recognition of feelings, emotional management skills, hopefulness, humour, and the ability to restore self-esteem (Kumpfer, 1999).

**Hope and optimism.** Of particular interest to me is the hope and optimism participants expressed. Hope and optimism are characteristics of positive affect, or the tendency to experience a positive state of emotions (Duffy & Lent, 2009). Positive emotions and positive affect (used interchangeably) lend insight into how these participants may experience resilience.

Lyubomirsky et al. (2005a), stated:

Characteristics related to positive affect include confidence, optimism, and self-efficacy; likability and positive construals of others; sociability, activity, and energy; prosocial behaviour; immunity and physical well-being; effective coping with challenges and stress; and originality and flexibility (p. 804).

There is significant cross-over between the characteristics listed above, and the themes describing resilience in environmental educators. Themes such as “association with positives,” “networking,” and “creativity,” (which emphasize optimism, positive construals of others, prosocial behaviour, effective coping with challenge and stress, and originality and flexibility), appear to be reflected in the characteristics of positive affect listed above. This cross-over suggests that positive affect may have a role in the experience of resilience in participants and raises interesting questions when considering resilience in environmental educators. These questions are discussed in implications of the findings and suggestions for future research later in this chapter.

### **Social/behavioural Competency**

Social/behavioural competencies (the actions one takes to achieve their goals and dreams), were identified by participants as important to their experience of resilience. Several themes emerged that directly reflect the characteristics described by Kumpfer (1999), while other emergent themes embody the characteristics described in the *Resilience Framework*.

“**Street smarts.**” “Street smarts” was identified by Kumpfer (1999) as contributing to resilience in youth and similarly emerged as a theme with



participants. The ability to use “street smarts” can be characterized by coping strategies including planning, persuasion, strategizing and problem-solving (Skinner et al., 2003). These environmental educators used “street smarts” to negotiate situations such as political challenges, and appealing to funders.

**Problem-solving.** Problem-solving is identified as a coping behaviour in resilient individuals (Kumpfer, 1999; Skinner et al., 2003) and is partly demonstrated in this study in themes of “negotiating political circumstance,” “working as an outlier,” “subversive politics,” and “gentle politics.” Problem-solving is one of the most universal characteristics of resilient individuals and includes related themes such as “planning” and “determination and perseverance” (Skinner et al., 2003). Problem-solving helps educators experience ownership which contributes to one’s resilience (Bobeck, 2002).

In Beardslee’s (1983, 1989) examination of long-time civil rights workers, problem-solving was found to be an important component of resilience, highlighted by the ability to generate and identify appropriate solutions, assess consequences of decisions, implement solutions to the problems, and reflect on the process. These characteristics of problem-solving were reflected in these environmental educators, particularly when they discussed how they negotiated political situations.

**Humour.** Humour is commonly noted as contributing to resilience, and is also characteristic of effective problem-solving. Humour promotes alternative solutions for problems (Bobeck, 2002), and is a sign of effective leadership (Baldwin, Maldonado, Lacey & Efinger, 2004). Although humour did not emerge

as a strong theme in the study of environmental educators, one participant, mentioned his use of humour during particularly challenging times.

**Empathy and interpersonal skills.** Inherent in the interactional processes of “gentle politics” and “negotiating political circumstance” is the competency of empathy and interpersonal social skills. Some participants used these social skills to maneuver difficult political situations. Henry’s tactic of moving things in his desired direction without creating resistance implies significant knowledge and application of interpersonal and social skills. Henry spoke extensively about the importance of “knowing the key actors” in political situations and working to appeal to these individuals. Such social skills and interpersonal skills have been found to be important factors in resilient individuals (McMahon, 2007).

**Action.** The theme of “action” emerged in this study to describe actions taken by participants to affect change in the world. Although action is not explicitly discussed in Kumpfer’s Framework, the distinguishing feature of social/behavioural competencies is action based on cognitive understanding. Beardslee (1989) describes the significance of action in children of parents with affective disorders and stated it was based on inner understanding, and nurtures a perception of oneself as an active problem-solver. Moreover, in a study of resilient youth in foster care, a turning point in which these youth actively altered their life trajectory was associated with “action” (Drapeau, Saint-Jacques, Lepine, Begin & Bernard, 2007).

Task-oriented coping has been found to contribute to resilience in adults suggesting that taking “action” protects against challenges and stress (Campbell-

Sills et al., 2006), likely because action conveys a sense of accomplishment and garners feeling of success and self-efficacy (Drapeau et al., 2007). Action is also a marked characteristic of effective and resilient leaders (Baldwin et al., 2004), suggesting that perhaps these environmental educators possess strong leadership qualities which contributes to their feelings of resilience

**Mentoring/mentorship.** Bobek (2002) describes significant relationships as fostering resilience in new teachers. Likewise, mentoring is shown to be an important tool in promoting success in environmental educators as it is an effective way of passing on knowledge related to problem-solving, and communication techniques, and it is motivating (Fortino, 1997).

Mentoring emerged as a theme in this study and described how environmental educators gained knowledge (being mentored), and the role of passing along knowledge (acting as a mentor). Experienced educators as mentors can empathize with the frustration experienced by new teachers, they can reinforce the benefits of teaching, and they can provide insight into different situations (Bobek, 2002). The importance of mentorship in the careers of several participants suggests that further research into understanding the value of mentorship could be important in understanding resilience in environmental educators.

**Planting seeds/nurturing seeds.** The idea of planting seeds, or nurturing seeds is not reflected in the components described in the *Resilience Framework* perhaps because of previous focus on youth. In a professional context of understanding resilience in adults, however, the idea of planting and nurturing

seeds represents the patient and long-term orientation of goal setting. Participants used the metaphor of planting and nurturing seeds to describe the process through which they suggested ideas, and strategically and thoughtfully nurtured these ideas over time. Environmental educators used numerous internal competencies in planting and nurturing seeds including problem-solving skills, planning ability, creativity, internal locus of control, determination and perseverance.

### **Cognitive Competency**

Kumpfer (1999) indicated there were six components that comprise cognitive competency: intellectual competence and academic and job skills; moral reasoning; insight and interpersonal reflective skills; self-esteem and ability to restore self-esteem; planning ability; and creativity. In seeking to understand how environmental educators use cognitive competency to experience resilience, several themes emerged.

**Intellectual competence and academic and job skills.** The theme “on going learning” reflects participants’ dedication and appreciation for skill building. These environmental educators sought out new learning opportunities and remained open to new ideas. Sumsion (2004) found on going professional learning to be important to early childhood educators’ resilience. Similarly, a study of urban educators who were reported as facing greater challenge than rural or suburban teachers found that resilient teachers place high value on professional development, and ensure these training opportunities are received (Patterson, Collins & Abbott, 2004). Further, it has been found that competence and skills within one’s subject area is a contributing factor to resilience in educators. This

suggests the importance of on going learning (Bobeck, 2002). As Bobeck (2002) stated, “to develop resilience, new teachers must be lifelong learners, willing to venture into areas that may challenge their current views of themselves and their practices” (p. 203).

**Moral reasoning.** Kumpfer describes moral reasoning as important to one’s resilience. Moral reasoning has been defined as the ability to judge right and wrong, value compassion and fairness, and set normative standards. These environmental educators spoke passionately about their concern for the environment, and this concern was reflected in individuals’ actions. Environmental education is what these participants’ not only taught, but also practiced in their daily lives. Their commitment permeated their everyday lives. Participants used moral reasoning to determine that environmental education is the right thing to do.

In a study of resilient teachers, it was found that allowing personal values to guide decision-making contributed to resilience (Patterson, Collins, & Abbott, 2004). Further, Patterson et al. found that most resilient teachers started their positions with a core set of values and beliefs, and with a belief that they wanted to make a difference. This suggests that teaching environmental education as a reflection of one’s moral belief contributes to the resilience experienced by participants.

**Insight and interpersonal reflective skills.** Closely echoing “insight and interpersonal reflective skills” (Kumpfer, 1999), the themes of “reflection” and “self-insight” emerged among participants to explain how reflection

and self-understanding were used as a means of experiencing resilience.

Reflection, a critical component of experiential education, allows one to learn from past experiences, develop skills based on the experience, and apply these skills to future experiences (Kolb, 1984). Reflection is cited as a precursor to “turning points” in life, and turning points can lead to resilience (Drapeau et al., 2007).

Similar to reflection, Hippe (2004) indicated that self-insight is a precursor to resilience. Self-insight, including the ability to set, evaluate and achieve goals, was determined to be a component in career motivation (King, 1997). Further, a commitment to goals, and congruency between organizational and personal goals promotes career resilience (King, 1997). This is interesting when considering environmental educators as several participants mentioned the “organization” as a potential risk factor suggesting that discrepancy between organizational and personal goals may inhibit one’s resilience. In fact, incongruence between personal and organizational goals led Jane to work outside of established organizations. Both Dave and Ralph described frustration with the lack of congruency between their personal goals and the organizational goals. In these instances it appears other factors of resilience compensate for the risk experienced through incongruent goals.

Beardslee (1989) found that self-understanding was central to the longevity and success of civil rights activists. Similarly, self-awareness was found to contribute to the resilience of environmental educators in this study. Both Jane and Dave explained their tendency to take on a lot of work. Knowing this about

themselves allowed them to develop strategies for guarding against burn-out related to working too much.

Self-awareness and reflection contributed to these participants' ability to create boundaries and "pick battles" through which they could limit the potential to experience stress. In her study, Sumsion (2003) found that this "self-preservation" was a key component to resilience. Similarly, Patterson et al. (2004) found that "knowing when to get involved and when to let go" (p. 6) was a significant factor in resilience of urban teachers. Environmental educators in this study reported that setting boundaries and "not taking work home" was critical to long-term success and contributed to their resilience.

**Planning ability.** The ability to plan has been identified as a key component of resilience throughout the discussion of internal competencies. Participants spoke of their planning abilities, such as planning the school week (Henry), planning the season's crops (John and Janice), and planning field experiences for students (Dave). Participants discussed celebrating successes that were the result of planning and organization - rarely did things "just happen," but were instead the result of deliberate, planned action. Not only did planning ability contribute to the success these environmental educators experienced, but planning ability is also a key component in "active coping" and "active environmental modification." These factors are critical to the person/environment transactional process that contributes to the experience of resilience (Li, 2008, 2009).

Planning ability was also evident through goal-setting and an ability to evaluate goals. Participants stated that "clear goals and ability to evaluate

success” were important to their resilience. Bobeck (2002) too stated that experiencing a sense of ownership in one’s career can lead to resilience.

Ownership can be characterized by problem-solving, decision-making and goal-setting. The educators in this study took ownership over their careers through clear goal-setting. The “ability to evaluate goals” contributes to one’s self-esteem and ability to restore self-esteem that in turn contributes to resilience (Kumpfer, 1999).

### **Spiritual competency**

Kumpfer (1999) describes spirituality as being comprised of dreams/goals/purpose in life, belief in one’s uniqueness, independence, internal locus of control, and determination and perseverance. Environmental educators identified several of these characteristics in their description of resilience. Spirituality has been found to be important in the process of resilience, especially in studies related to youth. Spirituality has been proposed as central to the emotional health and overall resilience of children (Eaude, 2009).

Hyde (2008), who viewed spirituality as a universal trait (not one necessarily connected to religious traditions), identified three components to spirituality in youth: a) making sense of existential questions such as “Who am I?” and “Why am I here?”; b) the search for meaning, a retrospective reflection process that helps one make sense of experiences; and c) connectedness to oneself, others, and the environment. When these components are applied to an environmental education context, it is possible to make connections between resilience in environmental educators and spirituality. For instance, many



environmental educators described their work as “a calling,” and most described using reflection (the search for meaning) in making sense of experiences.

Moreover, it was evidenced that participants had a strong connection to themselves (self-insight), others and the environment.

In a study on post-traumatic stress disorder related to community violence, spirituality was found to be a protective factor for youth (Jones, 2007). It is possible that spirituality contributed to these environmental educators resilience in helping to make sense of otherwise confusing circumstances.

**Determination and perseverance.** Characterized as a component of spirituality, determination and perseverance was previously identified as contributing to problem-solving and resilience. As a component of spirituality, determination and perseverance reflects one’s mission in life (Kumpfer, 1999). These environmental educators spoke passionately about the importance of promoting ecological literacy. Some regarded environmental education as “a calling” suggesting environmental education as their life mission. They also described a “sense of responsibility” to care for the environment. A sense of responsibility was reported as inspiring determination and perseverance in resilient women leaders (Baldwin et al., 2004). This suggests there may be a connection between the resilience of environmental educators, and feelings of determination to remain engaged in environmental education as a life calling.

**Hopefulness and optimism.** As discussed previously, hopefulness and optimism can be considered emotional competencies related to positive emotions. Whereas hope can be defined as focusing on one’s goals and one’s perceived

ability to reach those goals, optimism is “the expectancy that good things (rather than bad) will happen” (Lloyd & Hastings, 2009, p. 958). Hopefulness is associated with spirituality in that it requires the individual to have faith and a connection to the future and has been associated with “a fighting spirit” in women with cancer (Irving, Snyder & Crowson, 1998). As Oettingen and Gollwitzer (2002) state, individuals with high hopes perceive barriers to goal attainment as challenges, not stressors.

It has been proposed that hope is comprised of two pathways used to reach one’s goals (Snyder, Sympton, Ybasco, Borders, Babyak & Higgins, 1996). The first pathway is “agency,” one’s “perception of how able they are to initiate and maintain the actions needed to meet their goals” (Lloyd & Hastings, 2009, p. 958). The second, “pathways thinking,” is the belief that the individual has possible routes to meet one’s goals (Lloyd & Hastings, 2009). Higher degrees of “agency” and “pathways thinking” are associated with higher hope. In a study conducted with parents of children with an intellectual disability, it was found that high “agency” and high “pathways” predicted high levels of hope in parents (Lloyd & Hastings, 2009). Hope was found to be a predictor of decreased psychological distress, and increased feelings of positive well-being (Lloyd & Hastings, 2009).

My participants described feelings of hope and described goal-setting and problem-solving skills as important for resilience. Goal-setting and problem-solving skills suggest participants had a degree of “agency” and “pathways thinking.” This suggests that hope contributes to the resilience of these

environmental educators. Optimism, as discussed previously as an emotional competency, is related to feelings of positive affect and contributes to positive emotions.

### **How do environmental educators experience the transactional process?**

The transactional process can be understood as “coping strategies” used by the individual in times of stress (Skinner et al., 2003). These coping strategies shed light on how the individual uses internal competencies to mediate environmental factors in order to experience resilience. This transactional process (Kumpfer, 1999) is characterized by the following factors: 1) identification and attachment to pro-social people; 2) active environmental modification; 3) selective perception; 4) cognitive reframing; 5) planning and dreaming; and 6) active coping.

The majority of these characteristics are embodied by the themes described by environmental educators in this study. Additionally, themes emerged beyond those described by Kumpfer’s model and reflect the uniqueness of the participants. This is consistent with Skinner et al. (2003) who stated that identifying universal characteristics of coping processes is difficult because “the number and kind” of categories are specific to each research study. Researchers recognize that different coping techniques exist to promote resilience. However, differences in coping techniques have yet to be clearly distinguished. The following section helps in discerning differences in how environmental educators experience the resilience process.

**Identification and attachment to prosocial people**

Kumpfer (1999) identifies “identification and attachment to pro-social people” as a person/environment transactional process used by resilient individuals. This process was revealed in this study, primarily through the theme of “networking.” Networking was a significant finding explaining how environmental educators connect with like-minded individuals. In his study of civil rights workers, Beardslee (1983, 1989) emphasized the importance of closeness to others in sustaining the involvement of these workers over time. Similarly, participants described the importance of networks in experiencing resilience.

As Bobek (2002) described, positive social relationships with others who understand the challenges of teaching, such as those experienced through networks, can help mediate the stress and isolation often experienced by teachers. These environmental educators described using their networks during times of challenge as a way of seeking support, solving problems, and venting frustration. In a discussion of “support-seeking strategies,” Ayers, Sandler, West and Roosa (1996) stated that seeking advice, information, or direct support from others is a form of “problem-focused support.” Even parental support, as mentioned by Dave as an environmental protective factor, can mediate stress associated with teaching.

Networks were also used to celebrate success, and learn of positive projects that were happening in the broader environmental community. In a study of pro-active coping strategies, accessing social support was found to be one of the most popular forms of adaptive coping strategies (Yanos, 2001). For example,

Apfel and Simon (1996) found this to be true in resilient children who were survivors of war. These children invoked positive images of special people such as family and recounted positive community stories as an adaptive coping strategy (Apfel & Simon, 1996). This suggests networks are a source of strength, a way of invoking positive images and recounting positive stories. Moreover, this suggests networks represent a positive form of adaptive coping strategies for participants.

Patterson, Patterson, and Collins (2002) found that creating a climate of personal and professional support serves to bolster teachers' resilience and that sharing responsibility and participation was a key strength in teacher resilience. The participants too described a tendency to work in partnership and collaboration. Perhaps "sharing responsibility" explains this tendency beyond the benefit of associating with positive people. Patterson et al. found that resilient teachers associate with friends and colleagues who support their work. In a mixed-methods, four year study funded by the Department for Education and Skills (DfES) in England, the Variations in Teachers' Work, Lives and Effectiveness (VITAE) project found that motivation and enthusiasm for one's job was only sustained with support from significant others (Day, Sammons, Stobart, Kingston & Gu, 2007). "Identification and attachment to pro-social people" is a component of the person/environment transactional process in resilient individuals (Kumpfer, 1999). It appears that networks as experienced by participants are a form of attaching with pro-social individuals and contributed to resilience.

**Active Environmental Modification**

As a process of resilience, “negotiating political circumstances,” “subversive politics” and “gentle politics” can be thought of as “negotiation coping” (Skinner et al., 2003). Negotiation coping includes characteristics such as priority setting, compromising, reducing demands and persuasion (Skinner et al., 2003), and are methods of “active environmental modification.” These characteristics are linked to self-determination, and are used to mediate risk environments (Skinner et al., 2003).

**Selective Perception**

Selective perception, or the tendency to “self select” information, was used by several environmental educators. This tendency was reflected in the strong association with positive events, people, and circumstances expressed by environmental educators. Rachel highlights “selective perception” in her advice to other environmental educators where she suggests one must just “tune in” to information they want to hear. Similarly, Ralph reported he does not go out of his way to associate himself with negative people. Distancing oneself from risks, such as negative people, information or circumstances, is a common coping strategy (Drapeau et al., 2007; Skinner et al., 2003).

While the techniques mentioned by these environmental educators hint at selective perception, they also indicate a degree of distraction from, or avoidance of, the stress factor. Distraction or avoidance techniques are used to avoid the stress altogether and can be understood as cognitive (such as not thinking about the stress), or behavioural (physically moving away from the stress) coping

mechanisms (Ayers et al., 1996). As several participants noted, thinking about negative environmental stress is not something they did all the time. However they were acutely aware of the stress of increasing environmental issues. Instead they choose to focus on controllable (internal locus of control) and positive actions (selective perception, action-oriented behaviour).

Traditionally, avoidant coping has been considered a maladaptive coping strategy (Ayers et al., 1996; Welbourne, Eggerts, Hartley, Andrew & Sanchez, 2007). However, “problem-focused” avoidance techniques (such as problem-solving or action) and “distraction coping” (involvement in another activity to keep from thinking about the stress) are generally accepted as more positive forms of avoidance coping techniques where behavioural action is used to “do something” to alter the stress (Ebata & Moos, 1991; Ayers et al., 1996). The use of positive forms of avoidance coping helped participants manage stress related to increasing environmental adversity.

### **Cognitive Reframing**

Cognitive reframing can be explained as “thinking about a situation in a more positive way” and “minimizing the problem and consequences of the problem” (Ayers et al., 1996, p. 929). The use of cognitive reframing was not a significant factor identified by these environmental educators. However, Henry mentioned the use of support networks to “find the humour in the situation” suggesting cognitive reframing. However, there was not adequate evidence to suggest cognitive reframing was important in the resilience of participants.

### **Planning and Dreaming**

Planning and dreaming was best captured by the short-term and long-term goals discussed by participants. Participants discussed ideas and hopes for future projects, and directions. This appeared to help these environmental educators remain motivated and focused on long-term goals. Motivation was found to be important in resilience, and can be linked to experiencing work place satisfaction (Welbourne et al., 2007). Work place satisfaction was previously discussed and suggests that environmental educators use internal competencies to create work satisfaction.

### **Active Coping**

Active coping is described as thinking about stress in order to change the situation, or thinking about stress in more positive terms (Ayers et al., 1996). Problem-solving is an indicator of “active coping” (Li, 2009) and was a technique used by participants to mediate the stress of increasing environmental adversity. Although environmental educators did not explicitly mention “thinking about stress in more positive terms,” they often demonstrated a strong locus of control (thinking about the stress in order to change the situation) in taking “action.”

### **Nature as Healing**

Building on the *Resilience Framework*, “nature as healing” emerged as a theme within this study to explain a process through which participants mediated stress. This was reported to promote healing during times of stress, and was identified by participants as protecting against stress in the face of increasing environmental adversity.



Participants repeatedly discussed the importance of spending time in nature to restore and promote psychological health and well-being, consistent with research that shows nature as providing opportunity for psychological and physical healing (Frumkin, 2001; Maller et al., 2005). The ability of participants to recognize a need (self-insight) for “time in nature,” and the ability to meet this need, suggests a link with “active environmental modification.”

“Nature as healing” presents interesting considerations for environmental educators. It is possible that due the nature of their work (potential for “nature time”) and the capacity outdoor experiences hold for psychological health, that environmental educators are more likely to experience resilience. While the psychological benefits of nature are becoming more widely recognized (Frumkin, 2001; Maller et al., 2005), more research is needed to understand the relationship between these psychological benefits and resilience in environmental educators

### **How do environmental educators experience resilience when faced with the stress of environmental challenges?**

Involvement in environmental education and environmentalism is similar to other social movements in that an individual chooses to become engaged in the issue (Snyder & Omoto, 2007; Beardslee, 1983, 1989). As such, environmental educators exert some degree of control over their exposure to increasing environmental adversity in that they can choose to disengage from the source of the stress. This is unlike other experiences of resilience in which the individual cannot “escape” the reality of the stress (such as surviving cancer).

Individuals in this study described an awareness of personal limits (self-insight), and limits related to how much negative information or “stress” can be managed (setting boundaries). The awareness of one’s limits, as described by Rachel, allowed participants to appropriately gauge their capacity for stress.

Participants demonstrated a high degree of problem-solving skills that enabled them to use “action” when confronting stress. This approach allowed participants to implement change in the face of increasing environmental adversity. These educators built, through positive affect, strong networks of support. These networks provided strength in times of challenge, but moreover provided a context in which to celebrate success.

The participants in this study were not immune to the stress of increasing environmental adversity, and spent time in nature as a way of re-connecting, and rejuvenating. Participants succeeded in drawing on, and continuing to develop (on going learning) internal competencies to mediate environmental risk factors in order to experience resilience.

The sub-questions of this study sought to answer the research question, “How do environmental educators experience resilience in the face of increasing environmental adversity?” These environmental educators use internal competencies to mediate environmental factors in order to experience resilience. The majority of the emergent themes were consistent with Kumpfer’s (1999) *Resilience Framework*. However several new themes emerged that assisted in orienting the *Resilience Framework* to the context of environmental educators.

It appears environmental educators are aware of, and affected by stress related to increasing environmental adversity. However, they use internal competencies and environmental modifications to mediate this stress. In fact, the majority of participants described a greater concern with the day-to-day stressors related to environmental factors than the stress of increasing environmental adversity.

Participants used interactional processes as described by Kumpfer (1999) to mediate cumulative (day-to-day challenges) and acute stressors (increasing environmental adversity) and described additional internal factors (such as “planting seeds” and “mentorship”) as contributing to their success. The findings support the notion that resilience is a multi-faceted, interactive process that can be understood in the time, place and context of the experience (Johnson, 1999; Kumpfer, 1999).

### **Implications of the Findings**

The findings from this research project present implications in three areas. First, the participants of this study have revealed interesting themes related to their resilience as environmental educators that can be related to practice. These themes suggest considerations in practice for existing environmental educators, as well as for those entering the field. Moreover, the findings suggest ways in which environmental education organizations and teacher-training programs can promote and foster resilience among their staff and students respectively. It is recommended that mentorship programs be developed in which valuable skills related to resilience can be shared. Such programs should be considered a formal

component of teaching-training programs. Similarly, fostering strong networks of like-minded individuals is necessary and should be encouraged earlier in one's career. It is recommended that professional organizations develop strategies to proactively connect new environmental educators with seasoned professionals. Perhaps professional organizations should also consider adjusting membership fees so that joining is more affordable. This would encourage new professionals to join, as well as provide opportunities for those who have been in the field to connect with those with less experience.

Second, the findings of this project present implications for research. Several questions arose from the discussion of the findings. What roles do work satisfaction, positive affect, and "nature as healing" play in the resilience of environmental educators? How do these factors interact to promote resilience? This project has created a foundation from which to probe further into the process of resilience as experienced by environmental educators and is discussed in greater detail below.

Third, my thesis has been a journey in reflection. Patton (1990) suggests perhaps the greatest question in research is, "Why should the researched participate in your project?" I hope that each participant who completed the interview process gained further insight into his/her role as an environmental educator. As one participant suggested, the interview process itself could help one strengthen resilience simply through the process of guided reflection. Most importantly, it is hoped that participation in this research project allowed these environmental education practitioners to reflect on their experiences in, and

pedagogy related to, environmental education. It is hoped that through the interview process, participants were able to “take stock” of their success as environmental educators, and explore in greater depth what has contributed to their resilience in the field.

### **Suggestions for Future Research**

The findings of this research project describe the competencies, environmental factors, and processes that contribute to resilience in environmental educators. As Wolcott stated, qualitative studies often have no endings, only questions (as cited in Creswell, 2007). The findings in this study suggest several areas of further research. A greater understanding of the relationship between work satisfaction, positive affect, and resilience in environmental educators is necessary. Such areas present significant implications for future practice, particularly when considering how to best create successful working conditions for environmental educators.

Women have been found to cope with stress differently than men. For instance, it has been found that women tend to gravitate towards others (socialize) and display caring tendencies during times of stress (Taylor, Klein, Cousino Lewis, Gruenewald, Gurung, & Updegraff, 2000). Similarly, it has been found that women leaders experience specific resilience characteristics (Baldwin et al., 2004). Resilience studies specific to males have also been completed including resilience among male farmers in Australia (McLaren & Challis, 2009), gifted African American males (Bonner, Jennings, Marbley & Brown, 2008), and resilience in nonresident fathers (Fagan, Palkovitz, Roy & Farrie, 2009). Further

research specific to resilience in gender differences in environmental educators will add to an asset-based discussion of gender differences. Moreover, these examples suggest that gender differences may exist in the resilience of environmental educators and that further research is necessary.

As previously mentioned, this study did not explore the degree to which participants experienced resilience. Future studies are recommended in which the characteristics and experiences that distinguish between various degrees of resilience are explored.

These questions raise interesting opportunities in the development of research on resilience and environmental educators. To date, positive affect has been measured empirically (Miller et al., 2008). In the future, a mixed methods approach that combines empirical and hermeneutical approaches might further uncover the processes contributing to resilience among environmental educators.

### **Limitations of the Study**

As with all studies, there are limits on the scope of the results from this research project. First, as is the case with hermeneutical research, results are not generalizable to those outside of this research project. Although it is possible some readers may agree with the findings, the premise of hermeneutics is to understand lived experience. To this end, the study has sought to reflect the lived experience of those involved. These findings have been presented using Kumpfer's *Resilience Framework* as an organizational tool. However, one cannot apply the findings to the broader community of environmental educators.

Second, the findings in this project are limited by the degree to which participants were able to accurately and honestly reflect on their experiences. Results were garnered through semi-structured interviews in which participants were required to reflect and insightfully provide their perspective. The data hinges on the participant's ability to accurately and honestly evaluate and express his or her experience. This presents certain challenges, but the strength of the study exists in capturing essences, and it is the essence of the experience that was most important in data collection (van Manen, 1997).

Third, this study was limited in that it did not include broad cultural perspectives. The majority of participants identified as White and suggests a limited cultural perspective. This study was also limited in that I failed to capture the voice or perspective of a First Nations participant. Such a perspective is a valued component within the discussion of environmental education in Ontario as First Nations people were arguably the original environmental educators on this land (Simpson, 2002).

### **Conclusion**

The inception of this research project began with my experience as an environmental educator as I pondered the resilience of my students to increasing environmental adversity. As an educator I realized that my students were in desperate need of such resilience if they were to affect positive change in the world, yet I had little idea of how resilience was achieved. This began deep questioning regarding how it is that environmental educators experience resilience in the face of increasing environmental adversity.

This research project is the result of these initial questions and has sought to shed light on what we all might learn from resilient environmental educators. As Day and Gu (2009) state, the “reality is that the population of teachers in most Western countries are ageing” (p. 452) and means that those who have had the most time to accumulate resources will be leaving the teaching profession. With veteran environmental educators retiring, one might wonder how tacit knowledge accumulated over a career can be shared with youth and future environmental educators?

This study has contributed to the discussion in resilience and environmental education literature by suggesting ways in which resilience can be promoted in environmental educators. Fostering resilience in teacher-training programs through mentorship and networking offer a starting place. Continuing to discuss resilience in the context of environmental education, and seeking application for promoting resilience is important.

The environmental educators in this study exhibited tenacity and commitment to working for ecological change. They revealed aspects of themselves that contribute to their resilience (i.e., internal competencies). However, they also discussed the importance of the environment in which they work (i.e., environmental factors). Supporters of environmental education, no matter the level of direct involvement, can do much to support these educators in their life calling. Contributing to positive work environments and becoming part of the network of like-minded individuals will help these environmental educators continue to affect environmental change.



In closing, the increasing environmental adversity facing humans, and the need to promote ecological literacy among students (Fortino, 1997), suggests that understanding resilience in environmental educators should be of paramount concern. This study has sought to answer the question, “How do environmental educators experience resilience despite increasing environmental adversity?” As mentioned earlier, qualitative studies have no endings, only questions (Wolcott as cited in Creswell, 2007). While this study has provided some initial answers to the research question, we are left with many more questions to explore.

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## Appendix A

### Recruitment material: Advertisement

Hello. My name is Kelly Henderson and I am a graduate student in Leisure Studies at Brock University. I am conducting a research assignment on environmental educators and I am inviting you to participate in my study.

As an environmental educator myself, I am interested in better understanding how it is that environmental educators continue to teach about environmental issues in the face of increasing environmental adversity. In order to participate, it is important that you have experienced feelings such as being overwhelmed at the severity or number of environmental issues facing humanity. It is also important that even though you have experienced these feelings you have continued teaching environmental education. If you meet both of these criteria then I would like to invite you to participate in this study.

The study will include one in-person, in-depth interview that will last approximately 1 hour. With your permission, this interview will be audio-recorded. This will take place in a location of your convenience. A second interview will allow any further questions to be answered or clarification to be sought. The second interview may take place either in-person, or over the phone and is expected to be 10-30 minutes in length. As a participant your confidentiality will be protected and you will have the ability to withdraw from this project at any time.

If you meet the criteria mentioned above and are interested in participating in this research project please contact me at [resiliencyresearch@hotmail.com](mailto:resiliencyresearch@hotmail.com).

If you have further questions or concerns regarding participating in this study, you can contact my supervisor, Dr. Tim O'Connell at [tim.oconnell@brocku.ca](mailto:tim.oconnell@brocku.ca), or (905) 688-5550 ext. 5014.

This study has received clearance from the Brock University Research Ethics Board (Reference # 08-038).

Thank-you for your continued commitment to environmental education, and your interest in this project.

Sincerely,

Kelly Henderson



## Appendix B

### Recruitment material: Telephone Script

Hello. My name is Kelly Henderson and I am a graduate student in Leisure Studies at Brock University. I am conducting a research assignment on environmental educators and I am inviting you to participate in my study.

As an environmental educator myself, I am interested in better understanding how it is that environmental educators continue to teach about environmental issues in the face of increasing environmental adversity. In order to participate, it is important that you have experienced feelings such as being overwhelmed at the severity or number of environmental issues facing humanity. It is also important that even though you have experienced these feelings you have continued teaching environmental education. If you meet both of these criteria then I would like to invite you to participate in this study.

The study will include one in-person, in-depth interview that will last approximately 1 hour. With your permission, this interview will be audio-recorded. This will take place in a location of your convenience. A second interview will allow any further questions to be answered or clarification to be sought. The second interview may take place either in-person, or over the phone and is expected to be 10-30 minutes in length. As a participant your confidentiality will be protected and you will have the ability to withdraw from this project at any time.

Please remember there is no pressure to participate in this study – it is your choice and completely voluntary!

If you meet the criteria mentioned above and are interested in participating in this research project I will provide you with an official Letter of Invitation.

If you have further questions or concerns regarding participating in this study, you can contact my supervisor, Dr. Tim O'Connell at [tim.oconnell@brocku.ca](mailto:tim.oconnell@brocku.ca), or (905) 688-5550 ext. 5014.

This study has received clearance from the Brock University Research Ethics Board (Reference # 08-368).

I appreciate your time, and on-going commitment to environmental education. Thank-you for your consideration of this project.

## Appendix C

### Recruitment material: Email

Hello. My name is Kelly Henderson and I am a graduate student in Leisure Studies at Brock University. I am conducting a research assignment on environmental educators and I am inviting you to participate in my study.

As an environmental educator myself, I am interested in better understanding how it is that environmental educators continue to teach about environmental issues in the face of increasing environmental adversity. In order to participate, it is important that you have experienced feelings such as being overwhelmed at the severity or number of environmental issues facing humanity. It is also important that even though you have experienced these feelings you have continued teaching environmental education. If you meet both of these criteria then I would like to invite you to participate in this study.

The study will include one in-person, in-depth interview that will last approximately 1 hour. With your permission, this interview will be audio-recorded. This will take place in a location of your convenience. A second interview will allow any further questions to be answered or clarification to be sought. The second interview may take place either in-person, or over the phone and is expected to be 10-30 minutes in length. As a participant your confidentiality will be protected and you will have the ability to withdraw from this project at any time.

If you meet the criteria mentioned above and are interested in participating in this research project please contact me at [resiliencyresearch@hotmail.com](mailto:resiliencyresearch@hotmail.com).

If you have further questions or concerns regarding participating in this study, you can contact my supervisor, Dr. Tim O'Connell at [tim.oconnell@brocku.ca](mailto:tim.oconnell@brocku.ca), or (905) 688-5550 ext. 5014.

This study has received clearance from the Brock University Research Ethics Board (Reference # 08-038).

Thank-you for your continued commitment to environmental education, and your interest in this project.

Sincerely,

Kelly Henderson

## **Appendix D**

### **Interview Guide**

1. Describe your involvement with environmental education. Why did you become involved in environmental education?
2. What has been important in your success as an environmental educator?  
(Some research has shown that learning about environmental issues can lead to feelings of apathy, discouragement and despair. Have you ever experienced these or similar feelings?)
3. What has allowed you to continue in environmental education despite experiencing such feelings?
4. In what ways do you experience stress related to environmental concerns?
5. What contributes to you overcoming these feelings of stress or challenge?
6. What has contributed to your success as an environmental educator?
7. How do you measure success as an environmental educator?
8. In looking back over your career, what advice would you give to someone entering the environmental education field?

## Appendix E

### Follow-up Questions (Example)

#### Jane Interview Follow-up questions

1. Have you had any thoughts regarding “resilience in environmental education” since we last spoke?
2. What role have mentors played in your journey as an environmental educator?
3. Has your role of mentoring others contributed to your resilience in the field of environmental education?
4. It sounds like you’re very co-creational in your programs? Does using a collaborative approach contribute to your resilience in the field?
5. On page 11 of our interview you state,  
“I burned out earlier. I worked too hard. You know from that drive I was talking about, that drive to do stuff, and eventually it’s come down to, the difference between now and maybe 15 or 10 years ago is that now I know that I’m going to choose more - I’m not going to block the creative flow, - but I am going to choose the areas that I’m going to dive in, and you know, push really hard to – maybe push is the wrong word – but, you know, to make, to bring the project forward. Now I’m trying to read the energy of the situation, and if there’s no energy in that situation I don’t bother. The meeting that I might have crashed ten years ago and been driven to really, work with ten people that really didn’t seem to have a lot of energy, and then end-up carrying the weight of it – now I would say, “okay, sick system, OK I’m moving out to a healthy system”. I’m looking for the healthy opportunity because, it’s kind of like cutting the loses I guess. And going to where, to connect in with the resilience where it is ...”

How did you come to learn this sort of lesson?

6. Do you have any further thoughts you would like to add?

## Appendix F

### Letter of Information

July, 2009

**Title of Study:** Resiliency in Environmental Educators

**Principal Investigator:** Kelly Henderson, Graduate Student, Department of Recreation and Leisure Studies, Brock University

**Faculty Supervisor:** Dr. Tim O'Connell, Associate Professor, Department of Recreation and Leisure Studies, Brock University

I, Kelly Henderson, graduate student, from the Department of Recreation and Leisure Studies, Brock University, invite you to participate in a research project entitled Resiliency in Environmental Educators.

The purpose of this study is to better understand how environmental educators experience resiliency. It has been found that people can be overwhelmed by the ever-increasing environmental issues facing humanity. Despite this, many dedicated and passionate educators persist in not only maintaining their commitment to environmental change, but also aspire to draw out similar commitment in their students. This study seeks to better understand what allows environmental educators to thrive while environmental challenges continue to increase.

If you have experienced feelings related to environmental challenges similar to those mentioned above (for example, feeling overwhelmed), yet continue to teach environmental education then you meet the criteria of this study.

The expected duration of participation in this study is estimated to be 1.5-2 hours of your time. With your permission, the interview will be audio-recorded.

This research should benefit participants in providing an opportunity to reflect on your practice as an environmental educator. Additionally, this research will add to the understanding of how environmental educators experience resilience. Research data will be kept for future research possibilities on the same topic.

If you have any questions regarding this study, you may contact my supervisor, Dr. Tim O'Connell at [tim.oconnell@brocku.ca](mailto:tim.oconnell@brocku.ca) or (905) 688-5550 ext. 5014. If you have any pertinent questions about your rights as a research participant, please contact the Brock University Research Ethics Officer (905 688-5550 ext 3035, [reb@brocku.ca](mailto:reb@brocku.ca)).

If you have any questions, please feel free to contact me.

Thank you!

Kelly Henderson  
Graduate Student, Leisure Studies  
Recreation and Leisure Studies Department

Dr. Tim O' Connell  
Associate Professor,  
(905-688-5550 x5014)  
(tim.oconnell@brocku.ca)

This study has been reviewed and received ethics clearance through Brock University's Research Ethics Board (file # 08-368).

## Appendix G

### Informed Consent

Date: July, 2009

Project Title: Resiliency in Environmental Educators

Principal Investigator:

Kelly Henderson (Graduate Student)

Department of Recreation and Leisure Studies

Brock University

kh04do@brocku.ca

Faculty Supervisor (if applicable):

Dr. Tim O'Connell

Department of Recreation and Leisure Studies

Brock University

(905) 688-5550 Ext. 5014

tim.oconnell@brocku.ca

### INVITATION

I would like to invite you to participate in a research study. The purpose of this study is to better understand how environmental educators experience resiliency. It has been found that people can become overwhelmed by growing environmental issues. Despite this, many dedicated and passionate educators persist in not only maintaining their own commitment to environmental change, but also aspire to draw out similar commitment in their students. This study seeks to better understand what allows environmental educators to thrive while environmental issues continue to increase.

### WHAT'S INVOLVED

As a participant, you will be asked to participate in two interviews. The first interview will be conducted in person, and with your permission, will be audio-recorded. The first interview will take approximately 1-1.5 hours. The second interview will be conducted in person or over the phone. The second interview will take approximately 30 minutes. Participation will take approximately 1.5-2 hours of your time.

### POTENTIAL BENEFITS AND RISKS

Participation in this study will allow you to reflect on your experiences as an environmental educator and the factors that contribute to your success and longevity in this field. The outcomes of this study will help to shed light on how resiliency might be fostered within environmental educators. There are no anticipated or known risks associated with this study.

### CONFIDENTIALITY

The information you provide will be kept confidential. Your name will not appear in any thesis or report resulting from this study; however, with your permission, anonymous quotations may be used. Shortly after the interview has been completed, I will send you a copy of the transcript to give you an opportunity to confirm the accuracy of our conversation and to add or clarify any points that you

wish. Data collected during this study will be stored in a secure location when not being used by the researcher. Access to this data will be restricted to Kelly Henderson and Dr. Tim O'Connell. Data will be retained for possible future analysis on the same topic.

#### VOLUNTARY PARTICIPATION

Participation in this study is voluntary. If you wish, you may decline to answer any questions or participate in any component of the study. Further, you may decide to withdraw from this study at any time and may do so without any penalty or loss of benefits to which you are entitled.

#### PUBLICATION OF RESULTS

Results of this study may be published in professional journals and presented at conferences. Feedback about this study will be available from Kelly Henderson. She can be contacted by email at: [kh04do@brocku.ca](mailto:kh04do@brocku.ca)

#### CONTACT INFORMATION AND ETHICS CLEARANCE

If you have any questions about this study or require further information, please contact the Principal Investigator or the Faculty Supervisor using the contact information provided above. This study has been reviewed and received ethics clearance through the Research Ethics Board at Brock University File # 08-368. If you have any comments or concerns about your rights as a research participant, please contact the Research Ethics Office at (905) 688-5550 Ext. 3035, [reb@brocku.ca](mailto:reb@brocku.ca).

Thank you for your assistance in this project. Please keep a copy of this form for your records.

#### CONSENT FORM

I agree to participate in this study described above. I have made this decision based on the information I have read in the Information-Consent Letter. I have had the opportunity to receive any additional details I wanted about the study and understand that I may ask questions in the future. I understand that I may withdraw this consent at any time.

Name (Please print): \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_